THE JOURNAL

OF

POLITICAL ECONOMY

MARCH—1896.

THE QUANTITY THEORY OF THE VALUE OF MONEY.

IT is now eighty-five years since Ricardo first formulated the quantity theory of the value of money.[1] Assuming that the amount of commodities to be exchanged is at any time a fixed quantity, and that there is likewise a definite amount of the medium of exchange to perform this work, he concluded that prices would be the ratio between the bulk of commodities on the one hand, and the quantity of money on the other. It follows that a change in the amount of the circulating medium would cause a rise or fall of prices; or, as he put it, that there could be "no depreciation of coin but from excess."[2]

This formulation of the theory has been generally received since Ricardo's time as the authoritative doctrine of prices. During this period, however, there has gradually come about a great change in the methods of performing exchanges, so that the industrial world of today is, in this respect, very different from that which Ricardo knew. This change suggests the question whether the quantity theory applies as well to modern conditions as it did to those existing in England in the first decades of the century.

[1] *Reply to Mr. Bosanquet's Practical Observations on the Report of the Bullion Committee*, chap. vi.; "Observations on the Principles of Seigniorage" (London, 1811).

[2] *Ibid.* p. 347 (McCulloch's edition of Ricardo's Works).

This question did not escape the attention of John Stuart Mill. Although he gave in his adherence to the general principle of the theory, as true under certain conditions, he was careful to point out that when other media of exchange besides money are used, "the connection between prices and the amount of the circulating medium is much less direct and intimate, and such connection as does exist no longer admits of so simple a mode of expression." [1]

This disposition to regard the change in economic conditions as requiring a limitation of the theory, has not been shared by many of its adherents. Indeed, at least one eminent economist has expressly denied the validity of such a limitation. President F. A. Walker has expressed the view that despite "the extreme extension of credit, to embrace the banking system, the check system, and finally the clearing-house system, . . . it still remains true that the demand for money, whatever that may be, does, taken in connection with supply, determine prices." [2]

This difference of opinion between economic writers of such high standing as Mr. Mill and Mr. Walker, makes the inquiry as to whether the quantity theory can be accepted as a satisfactory explanation of prices under existing conditions all the more pertinent and interesting.

At the very commencement of a discussion of this question the inquirer is met by an objection. The quantity theory, he is told, derives its validity directly from that of the fundamental economic law of demand and supply. Therefore it cannot be said to be open to question. Any pains bestowed upon an examination of its soundness are thrown away. "Prices," says President Walker, "being nothing more or less than values expressed in terms of money, those who hold the quantity theory merely point out a specific instance for the application of a principle which has been established by competent induction, and

[1] *Principles of Political Economy*, bk. iii. chap. viii. sec. 4.

[2] *Quarterly Journal of Economics*, October 1893, pp. 62 and 74.

the applicability of which is not challenged in any other instance within the view of the political economist."[1]

When the argument for the theory is put on this basis, an implicit denial of the general law of demand and supply is imputed to those who do not accept it. Such, however, has not been the position of the critics of the quantity theory. They have accepted the fundamental principle, and have rejected the theory, simply because it seemed to them inconsistent with the principle. The starting point of an examination of the theory, then, should be the consideration of this claim that it is simply an application of an unquestioned law of value. If it is found to be such, the correctness of its principle must be acknowledged. If not, immunity from criticism cannot be claimed for it.

The best method of discussing this question will be to take the general law, that the value of every commodity is fixed by the relation between the demand for it and the supply of it, apply it to the consideration of prices, and see to what conclusions it leads. As a definition of price, President Walker's explanation, that it is "the purchasing power of a commodity expressed in terms of some other article,"[2] may be taken. On these premises the argument proceeds as follows: The value of a bushel of corn is determined by the supply of and demand for corn, that of a bushel of wheat by the supply of and demand for wheat. The price of a bushel of wheat in corn is the number of bushels of corn for which it will exchange. If one bushel of wheat buys two of corn, the price may be expressed in the form of a proportion:

1 bushel of wheat = 2 bushels of corn.

Since the value of a bushel of wheat depends on the demand and supply of wheat, and since both of these forces are subject to constant variations, the value of wheat is a variable quantity. The same is true of the value of corn. Suppose that the demand for wheat increases so as to raise its value one-half. Then the above equation will become:

[1] *Quarterly Journal of Economics*, July 1895, p. 372.

[2] *Political Economy* (New York, 1895), p. 85.

1 bushel of wheat = 3 bushels of corn;

that is, the price will rise. An increased supply of wheat will lower its value, and decrease its price in corn. Again, suppose that the demand for corn increases, so as to double its value, the last equation will change to:

1 bushel of wheat = 1½ bushels of corn.

A greater supply of corn would have the opposite effect of lowering its value and raising the price of wheat in corn. Thus the price of one commodity in terms of another is a ratio between their respective values, which in turn are fixed by supply and demand. That is, the price is the resultant of four forces: viz., (1) the supply of the one commodity, and (2) the demand for it; and (3) the supply of the other commodity, and (4) the demand for it.

Now price, as the word is commonly used, is the value of any commodity expressed in terms of some recognized denominator of value, whatever that may be, according to the monetary system of the particular country. What has been said of the price of wheat expressed in corn, applies perfectly to the price of any commodity in terms of any other. Since demand and supply regulate the values of commodities in conformity with their costs of production, the law may be expressed in these terms: the price of any commodity will be altered by a change either (1) in the supply of the article used as the denominator of value, or (2) in the demand for that article, or (3) by a rise in the cost of producing the given commodity, or (4) by a fall in this cost.

What is true of the price of a single commodity is equally true of the average price of a large number of commodities. Consequently the price level of a country is subject to change from these four causes: (1) If the demand for the article used as the denominator of value increases, and the other factors remain constant, less of the denominator than before will exchange for the same amount of commodities; that is, prices will fall. (2) If the supply of the article used as denominator increases, nothing else changing, more of that article will be

offered for like amounts of goods; that is, prices will rise. (3) If the average cost of producing goods increases, while the other factors are constant, more of the article used as denominator will exchange for an equal amount of commodities; that is, prices will rise. (4) Finally, if the average cost of producing goods decreases, and no other change occurs, less of the denominator will buy the same amount of goods; that is, prices will fall. (5) To take a more complex case, suppose that the demand for the article used as the denominator of value and the average cost of producing goods increase simultaneously. The increased demand for the denominator will tend to lower prices; the increased cost of producing goods to raise them. Then, according as the first force is more potent than, equal to, or less potent than the second, will prices fall, remain unchanged, or rise. (6) If the demand for the article used as denominator increases, while the average cost of producing goods decreases, each change will tend to lower prices. (7) If the supply of the article used as denominator increases, together with the average cost of producing goods, the two tendencies will again be in the same direction, and prices will doubly rise. (8) Lastly, if the supply of the article used as denominator increases and the cost of producing goods decreases, the changes will be opposed to each other, and three results are possible: (*a*) a rise of the price level, if the increased supply of the denominator prove to have the greater effect; (*b*) no change at all, if the two tendencies exactly counteract each other; (*c*) a fall, if the decreased cost of production overbalances the opposing force.

It would be easy to continue the consideration of possible combinations of these factors which fix prices in such cases, for example, as an increase in the cost of producing goods, accompanied by a rise of both the demand for, and supply of the article used as the denominator of value. But the foregoing discussion is sufficient to show how intricate the price problem really is, and what careful study is required in explaining all movements of the general level. Take for example the well-known fact that prices fell 7.8 per cent. in the United States between 1860

and 1891. How is this phenomenon to be examined and explained? What has been said must make it plain that such a fall might be due to any one, or to more than one, of a number of causes: for example, to a lessening in the average cost of producing goods, increasing the supply on the market; or to a falling off in the demand for goods consequent upon an increased cost, such as a lessened efficiency of labor would produce; or to an increased demand for the article used as a denominator of value, such as might be brought about by a greater non-monetary consumption; or to a decreased supply of that article, which might result from increased hoarding, or from a lessened production extending over a period of years; or to various combinations of such causes. Thus the mere fact of the fall of prices, is no index to show which of many possible causes was the real one. This can be found only by means of lengthy and careful investigations into the factors which have been at work affecting the values both of the denominator and of commodities.[1]

The application of the law of demand and supply thus leads to the conclusion that the general price level is subject to fluctuations arising from changes in the cost of producing goods, quite as much as to alterations caused by changes in the demand or supply of the article used as the denominator of value. The argument that the quantity theory is but an application of the law of demand and supply may now be examined in the light of this conclusion. It is true, as the theory states, that the value of money — meaning the article commonly used as the denom-

[1] This intricacy of the price problem seems to be one reason for the many inconsistencies in the explanations commonly offered of changes in the general level of prices. A second reason seems to be that the problem is commonly thought to be very simple. The expectation of finding an easy and certain solution by *a priori* reasoning is of itself a proof that the complexities and difficulties in the way are not suspected. When, for instance, President Walker explains the fall of prices in this country by a relative increase in the demand for money, without giving any evidence for this view, is not the very simpleness of the procedure ground for questioning its conclusiveness? and does it not indicate that the theory, on which it is based, takes but a superficial and inadequate view of the facts?—See President Walker's article in *The Quarterly Journal of Economics*, July 1895.

inator of value — is determined by the same law as the value of any other commodity; but this cannot be taken to mean that the level of prices is fixed solely by the supply and demand for money, which is only one term of the comparison involved in price making. The foregoing discussion has shown that price is a ratio between two terms — money and commodities — and that it will change when either of these changes. Thus the law of demand and supply, invoked as the unquestioned guaranty of the validity of the quantity theory, proves, when applied to the price question, that the theory is inadequate, because it does not take cognizance of all the factors which, working together, fix the general level of prices. It is not admissible, then, to claim that the theory is but one application of demand and supply, on the ground that prices are "nothing more or less than values expressed in terms of money."[1] This is the very point, that so soon as values of commodities are expressed in terms of money, those values are dependent, not on the demand and supply of the money alone, nor on the cost of producing the commodities alone; but upon the combined action of supply and demand for money and the cost of producing the commodities.

It seems to be quite evident, then, that an actual application of the law of demand and supply shows no reason for the claim that the quantity theory is merely a deduction from that law. The theory, therefore, must be discussed on its own merits, whatever they may prove to be, as an explanation of prices. The line of argument followed above suggests the direction and the method in which a farther examination may proceed. The law of demand and supply may be applied, now more in detail, to discover whether the theory gives a satisfactory explanation of the forces which affect (1) the money side of the price ratio, and (2) the commodity side.

In taking up the first of these questions, it will be well to quote President Walker's lucid exposition of the way in which the value of money is determined. "The value of money," he

[1] F. A. WALKER, *Quarterly Journal of Economics*, July 1895, p. 372.

says, "is purely a question of demand and supply. . . . The demand for money is the occasion for the use of money in effecting exchanges: in other words it is the amount of money work to be done." The supply of money "is the money force available to do the money work which the demand for money indicates as required to be done, in the given community, at the given time." It "is composed of two factors—the amount of money, and the rapidity of circulation."[1] This explanation is made more explicit when interpreted in the light of the same writer's well-known definition: "Money is that money does."[2]

In considering this explanation it is necessary to make a distinction between the different ends which money serves. Of the three functions commonly enumerated—a medium of exchange, a denominator of value, and a standard of value—it is with the latter two that the study of prices is chiefly concerned. The price of a commodity is its value expressed in terms of money. A theory of prices, then, must explain the demand and supply of money as the denominator of value. The explanation offered by the quantity theory is that everything that performs money work is to be considered as a part of the supply. That is, the value of money serving as the denominator of value, is fixed solely by the supply and demand of the medium of exchange. If the demand and supply of the medium of exchange are the demand and supply of the denominator of value, does it not follow that no distinction can be drawn between the two categories, and that all kinds of money serve alike as denominators of value?

Consider this position for a moment in connection with the existing monetary conditions of the United States. There are nine different kinds of money in circulation,[3] with intrinsic values ranging from the worthless bit of paper of which a United States

[1] *Political Economy*, pp. 133 and 136.

[2] *Money in its Relations to Trade and Industry* (New York, 1885), p. 1. President Walker has himself applied this definition as a test of what should be included in the supply of money. He concludes that bank notes are a part of the supply.—See *Quarterly Journal of Economics*, October 1893.

[3] These are gold coin, gold certificates, silver dollars, subsidiary coin, Treasury

note is made, to the silver (worth about fifty cents) in a silver dollar, and to the gold in an eagle, worth as bullion its full face value. But all these different kinds of money are maintained at a uniform value, as is proven by their continuing in concurrent circulation. This condition is to be accounted for, of course, by the fact that at the basis of the system is the gold standard, in which all other forms of money are redeemable, and to the value of which the other kinds of money conform. If any one doubt this, let him consider what would happen if the redemption through the treasury or the customs-house receipts, of other forms of money in gold should cease. Unless he is prepared to assert that under those conditions a premium would not appear on gold, he cannot deny that it is redemption in gold that gives their present value to other kinds of money.

If this be true, it means that, although in this country there are several different media of exchange, there is but a single standard and denominator of value, namely, gold. All prices, then, are gold prices; that is, they are the values of commodities compared with the value of 25.8 grains of gold in the form of a dollar. If a hat is sold for five dollars, it means that the forces of demand and supply of hats of that particular kind, and the demand for and supply of gold, have determined the hat to exchange against gold dollars at the ratio of one to five. This rate of exchange, or price, is just the same whether the hat is paid for by a check, or in greenbacks, or in subsidiary coin, or in silver dollars, or in gold. The medium in which the transaction is settled has nothing whatever to do with the denominator in which the value of the hat is expressed.

To so much, perhaps, most would agree; but there seem to follow conclusions at variance with the quantity theory. For, applying the law of demand and supply once more, if price is a ratio between commodities and gold, it must be that nothing can affect price unless it affect the demand for or supply of commodities, or of gold. Then we may ask how can an increased

notes (1890), silver certificates, currency certificates, national bank notes, and United States notes.

supply of other kinds of money, besides gold, affect prices? According to the theory, a greater circulation of copper cents, or of subsidiary silver, would have the same proportional influence in raising prices as an equal sum of gold coins. But how could they alter the demand or supply of gold? One may conjecture that an increased issue of silver dollars might have an indirect influence on the price level by indicating a weak monetary policy on the part of the government, and so giving rise to the suspicion that the standard and denominator of value was to be changed; or by taking the place of some of the gold coins in circulation, and thus decreasing the demand for gold; or by compelling the government to buy more gold in order to keep up the reserve for redeeming the silver on demand. But, however this might be, it is plain that it is only by affecting the demand or supply of gold, the denominator of value, that the supply of other media of exchange could be of any consequence in fixing prices.

There seem, then, to be good reasons for amending the theory —as indeed some of its adherents have suggested[1]— by considering only the supply and demand of *standard* money. But the amendment cannot stop here. If only standard money is included, and gold is that standard, one immediately asks whether the explanation of demand and supply offered by the theory is adequate. As was seen above, the theory considers only the monetary demand and the monetary supply. But does the value of the standard money, gold, depend solely upon the monetary demand and the supply of gold coins?

An answer to this question is suggested by noting the significance of the facts (1) that there is free, and in this country also gratuitous coinage of the standard money; and (2) that coins of the standard money do not necessarily remain in that form, but are frequently sold in the market as so much bullion, and con-

[1] PROFESSOR J. SHIELD NICHOLSON, for example, states the theory in this form: "The quantity of standard money, other things remaining the same, determines the general level of prices, whilst, on the other hand, the quantity of token-money is determined by the general level of prices."—*Treatise on Money and Essays on Monetary Problems* (Third edition, London, 1895, p. 93).

sumed in the arts.[1] Under these circumstances it is evidently impossible that there can be any variation between the value of 25.8 grains of gold in the form of a dollar and in the form of a bar. The coin cannot be of less value than an equal weight of bullion, because it is continually sold in the open market; nor can it be of greater value, because all owners of bullion are free to send it to the mint and have it converted into coin. Thus the value of gold coin and gold bullion must always be identical, because there is a constant ebb and flow between the two.

But if it is true that there can be no material variation between the values of gold in different forms, does it not follow that the value of gold coins will be partly dependent on the value of gold bars; that an increase or decrease in the quantity of bullion, which alters its value, will likewise alter the value of gold coin? To hold that the value of the article used as the denominator of value is determined solely by the supply and demand for the article in that particular form, is like holding that the water level in New York harbor is dependent only on the amount of water that is poured into it by the rivers, and that is evaporated from it by the sun, without considering that its level must always conform to that of the Atlantic Ocean.

The treatment furnished by the quantity theory of the conditions governing the value of the money side of the price ratio, thus appears to be quite inadequate. It considers but one, and

[1] Ricardo, in his exposition of the quantity theory, was very careful to limit its application to countries in which the government had an absolute control of the amount of the circulation. "While the state alone coins," he says, coin "can be raised to any conceivable value . . . . by limiting the amount." He even thinks it necessary that the public should "be secured against . . . . illegal additions to the circulating medium." This indicates that Ricardo himself would not regard the theory as applicable to a condition of affairs in which the control of the amount of the circulation had passed out of the hands of government. But this is a result which follows inevitably from the passage of free coinage laws, by which the government undertakes to coin bullion brought to it by any individual. Such free coinage provisions have been made by almost all commercial nations. Therefore no one is justified in quoting Ricardo to support the quantity theory as applied to present conditions. The careful restrictions which he laid down expressly forbid the application of the principle under such circumstances.—See the *Reply to Mr. Bosanquet's Practical Observations*, chap. vi.; and *Principles of Political Economy and Taxation*, chap. xxvii.

that not the most important, source of demand and supply of gold. A brief study will make this evident. As has been seen, it is the relation of the total supply of gold to the total demand that determines its value. The supply on the market includes the product just coming from the mines, old ornaments, coins of different countries, and gold in many other forms. The demand for gold is mainly for three different kinds of consumption; viz., for coinage, for export to countries outside the civilized portions of the globe, and for consumption in the arts. To this should be added the wear of coins and chance loss. Dr. Soetbeer's investigations led him to the conclusion that the total monetary consumption of gold averages less than one-third of the total non-monetary consumption.[1] In the light of these facts, can it be admitted that the value of gold is dependent solely upon the monetary demand and supply? If not, is there not good reason for asking a broader treatment of the money side of the price problem than is furnished by the quantity theory?

Thus there seem to be sufficient reasons for refusing to accept the quantity theory as an explanation of prices under such conditions as prevail in the United States at present. Such a conclusion, however, is no proof that the theory may not be valid under other conditions. Economic laws are not propounded as equally true under all conceivable circumstances. The validity of any law is to be pronounced upon, only in relation to some particular environment.

A search for the possible circumstances, under which the quantity theory would give a satisfactory account of the forces that fix prices, is beyond the scope of this study. It will not be amiss, however, to consider one case, not infrequent in monetary history, to which the theory is thought to apply with particular

[1] *Materials for the Illustration and Criticism of the Economic Relations of the Precious Metals and of the Currency Question.* [Translated in the *Final Report of the Royal Commission on Gold and Silver*, Appendix, p. 179.] The total non-monetary application of gold in the civilized world in 1881–5 is estimated at 574,000 kilograms; the monetary application at 172,000 kilograms.

rigor. "Probably the very best instance of the theory," says Professor Nicholson, "is the case of inconvertible paper. There every one admits that the value depends on the quantity."[1]

This statement may not appeal to every one as carrying its own conviction with it. Some might reply that, on the contrary, it would seem natural to suppose that the value of inconvertible paper is least likely to depend on the quantity of it; that its value will conform, in fact, to the confidence felt by the public mind, that the paper will some time be redeemed; and that the issue of a great quantity is likely to cause depreciation, because it will shake this confidence, since it is a public confession of the financial weakness of the government. A discussion of these opposing views would require much space, and might not be productive of conclusive results. But by leaving aside the theoretical discussion, and appealing to facts, some light may be obtained.

With this purpose, the question may be asked whether the value of United States notes, for the years 1862 to 1878, can be explained on the hypothesis that it was governed solely by the relation between the supply and demand for money, that is, between the volume of the money in circulation and the amount of goods to be exchanged by the use of money. Why was it that the premium on gold, which may be accepted as an approximate measure of the depreciation of notes, declined from an average 203.3[2] in 1864 to zero by the end of 1878? The supply of money increased in the meantime, so it could not be because of changes on the supply side. Then it is to be supposed that the amount of goods to be exchanged increased so greatly as to offset the increased supply, and raise the value of the currency from 49 per cent. to par? Does this seem more probable than the other explanation, that the value of the greenbacks rose

[1] J. SHIELD NICHOLSON, *A Treatise on Money and Essays on Monetary Problems*, p. 144. President Walker also applies the quantity theory especially to determine the value of paper money.—*Political Economy*, part 3, chap. v.

[2] The yearly premium on gold, and the yearly amount of the circulating medium, 1860 to 1891, may be found in a table printed in the JOURNAL OF POLITICAL ECONOMY, March 1895, p. 156.

because the confidence in the financial ability of the government, which had been much shaken during the war, was revived by the return of peace, and finally restored entirely by the resumption of specie payments January 1, 1879?

If the former seems more likely, we may go a step farther. Why did the premium on gold rise from an average of 145.2 in 1863 to an average of 203.3 in 1864? The supply of money in circulation had increased only 12½ per cent.,[1] but meantime the currency price of gold had risen 40 per cent. Is it to be supposed that the money work had declined sufficiently in one year to account for the discrepancy?

But a still stronger case can be found. Why was it that the premium on gold which stood at 145 on the first of July, 1863,[2] fell to 138 on the sixth, to 133⅜ on the eighth, and to 123¼ on the twentieth of the month? Did the money work increase in these few days to such an extent as to cause so considerable a rise in the value of the circulating medium? Is it a mere coincidence that this rise followed two great victories of the Union armies? The battle of Gettysburg was raging July 1, 2 and 3. Vicksburg surrendered July 4. July 5 was Sunday. When the market opened Monday, gold had fallen to 138. As Lee retreated with his defeated army across Pennsylvania and Maryland, back into Virginia, the premium fell rapidly, and by the twentieth of the month was down to 123¼.

These experiences of the United States seem to demonstrate quite clearly that the value of inconvertible paper may rise or fall for reasons that affect neither the supply of it in circulation, nor the amount of work it has to perform. This new factor is the confidence that people feel that the paper will one day be redeemed. If the financial standing of a government is strong, this confidence will be high, and the paper will depreciate little, if any. If the government is in a perilous position, this confidence will be low, and the paper may depreciate to any extent.

[1] Volume of currency 1863, $595.3 millions; 1864, $669.6 millions. JOURNAL OF POLITICAL ECONOMY, March 1895, p. 156.

[2] See *Commercial and Financial Chronicle*, vol. i. p. 165, for a table of the daily highest and lowest prices of gold at New York, 1862–5.

Everything that affects this confidence, will affect the value of the currency. But the quantity theory has nothing whatever to say about this factor in the situation. It can hardly, then, be accepted as a satisfactory explanation of the value of inconvertible paper. This conclusion naturally suggests the reflection that if "the very best instance of the theory is the case of inconvertible paper," as Professor Nicholson holds, the theory must be satisfactory in very few cases.

Turning now to the second of the suggested lines of inquiry, do we find in the quantity theory a more satisfactory treatment of the commodity side of the price problem than that offered for the money side?

The preliminary study of demand and supply showed that the level of prices is liable to be altered by a raising or lowering of the average cost of production. How far is this fact taken into account by the theory? In the brief statements commonly given, no notice is taken of anything but the demand and supply of money.[1] But in more detailed expositions the idea makes its appearance that somehow the commodity side is included in the money side; as if the supply of goods were the demand for money, and the demand for goods were the supply of money. This of course could be true only in an economy where all exchanges were actually performed by the transfer of money; for as soon as any goods were exchanged against each other by barter, the supply of money would no longer include the total demand for goods, nor would the demand for money be the total supply of goods. It is evident, then, that the idea is totally inapplicable to a condition of affairs like the present, where a very large proportion of commercial transfers are settled without the use of any money.

In order to explain existing conditions, President Walker has given a careful restatement of the theory, according to which

[1] Compare, for instance, President Walker's concise statement, "The demand for money, whatever that may be, does, taken in connection with supply, determine prices."—*Quarterly Journal of Economics*, October 1893, p. 74.

the demand for money is the total supply of commodities exchanged, minus the amount exchanged by barter and the use of credit instruments. "The demand for money," he says, "is the amount of money work to be done. This is not determined by the gross volume of the wealth of the community, since all that wealth is not to be, in fact, exchanged. For a similar reason it is not determined by the amount of the annual production of the community. It is not determined by the value of products to be exchanged, inasmuch as some classes of these may require to be exchanged several times, and some but once. Moreover, in spite of the difficulties of barter, . . . many products are . . . exchanged against each other; while . . . the modern organization of commerce, especially through the agency of banks, provides for the creation and subsequent cancellation of indebtedness on account of products given and taken in exchange, to an extent which vastly diminishes the actual use of money in effecting transfers."[1] It is therefore only that part of the total supply of goods which actually is exchanged by the use of money that is compared with the supply of money. The general price level is determined by the comparison between these two amounts; and the prices thus fixed, determine the rates at which goods transferred without the use of money shall be exchanged. It follows from this, that an increased supply of commodities, such as would result from a decreased cost of production, could not lower prices unless it actually increased the demand for money.

Now the slightest consideration of the present conditions of exchange will make it evident that there is no necessary connection between an increased supply of commodities and an increased demand for money. There is a complete *non sequitur* in the argument from the one to the other. In the first place an increased supply of goods does not necessarily require any increase in the media of exchange. The total amount of the instruments of exchange required to transact a community's

[1] *Political Economy*, pp. 133, 134. Compare also President Walker's article in the *Quarterly Journal of Economics*, October 1893.

business is not fixed by the amount of the goods to be exchanged, but by the amount multiplied by the price. It takes no more money to exchange 2000 tons of steel at twenty dollars a ton, than to exchange 1000 tons at forty dollars. Thus the total volume of goods exchanged may increase enormously without requiring any larger circulating medium.

But, even if the increased supply of goods should require an increase in the circulating medium, this increase would not necessarily be an increase of money. This is plain enough when one thinks of the large amount of exchanges performed by the use of credit instruments. An approximate estimate of the relative importance of the monetary and non-monetary media of exchange, may be obtained by comparing the deposit currency of the banks with the amount of money in circulation. October 1, 1894, the bank deposit currency of the country amounted to $2963 millions.[1] The total monetary circulation for the same year is estimated at $1660 millions.[2] These figures show that the bank money forms a much larger part of the country's mechanism for effecting transfers than the legal currency. It is not at all unlikely then, that even a considerable increase in the supply of commodities would have no appreciable effect in increasing the demand for this minor part of the whole volume of the medium of exchange.

But we can go farther than this. It has been shown above that the supply and demand of all forms of money are not of equal importance in the discussion of prices, because prices are ratios between the volumes of commodities and of the standard money. It followed that it is the supply and demand of this standard money only that can affect the price level. Now the the monetary circulation of the country is not composed wholly of gold. In 1894 the gold coin and gold certificates in circulation amounted to $562.2 millions; money of other kinds to $1098.6 millions.[3] The gold thus formed a little over one-third

[1] LAUGHLIN, *Facts About Money*, p. 225.

[2] *Statistical Abstract of the United States* (1894), p. 30.

[3] *Statistical Abstract of the United States* (1894), pp. 27–30.—The statement of the

of the monetary circulation. Then an increased demand for currency would not necessarily create a demand for gold. Taking the larger view, the supply of gold money in 1894 was less than one-eighth part of the total circulation of the country, that is, the legal money plus the deposit-currency of the banks.

How then, we may ask, can the quantity theory explain the change of prices that results from a lowered cost of production? How much ground is there for the inference that the increased supply of goods will increase the demand for gold? There are two breaks in the chain of causation. An increased volume of goods produced does not necessarily require a greater amount of the medium of exchange; and secondly, if it did, the demand for the circulating medium might be increased very much without altering the demand for gold, which forms but one-eighth part of the whole. But unless the demand for gold is increased, how is the lowered cost of production and consequent increased supply of commodities, to have its effect upon prices?

The position of the adherents of the quantity theory, when analyzed, seems then to reduce itself to this: That unless an increased supply of commodities does increases the demand for the money used as the denominator of value, it cannot affect prices. This is not a proposition that will readily commend itself to an intelligent person. Indeed it seems directly opposed to the conclusions naturally drawn from the law of demand and supply. According to that law, when the value of hats, for example, is compared with that of gold, as the naming of the price of hats in terms of money does compare their values, an increase in the supply of hats will tend to lower the price, even though the supply and demand for gold remain absolutely constant. The price does not continue the same until the increased supply of hats raises the demand for gold, and then change. If any one chooses to affirm this, is he not equally bound to affirm, according to the law, that an increased supply of gold can-

Treasury for January 1, 1896, gives the gold in circulation as $484.7 millions; the total monetary circulation as $1579.2 millions. Gold therefore forms but 30.6 per cent. of the currency of the country at present.

not raise the price of hats unless it increases the demand for hats?

The decisive shortcoming of the quantity theory, then, seems to be that it is not in accordance with the law of demand and supply. It looks at prices entirely from the point of view of money. It is conceived that the value of money in commodities, as expressed in the price level, is fixed by the supply and demand for money alone. The supply and demand for the various commodities are of importance only in so far as they affect the demand for and supply of money, the denominator of value. It is impossible, according to the quantity theory, that the price level should be altered by a change in the cost of producing commodities, if the supply and demand for the article used as the denominator of the value remain constant. But prices are a ratio between two terms, and the law of demand and supply shows that both terms are likely to change. What reason is there then for saying that the ratio can be altered only by a change in the first term; implying that the second term may rise or fall as it will, without changing the ratio, so long as the first quantity is unaltered? And this, too, when it cannot be shown that a change in the second quantity will cause a corresponding change in the first. Is not the entire one-half of the price problem left completely out of consideration in this treatment?

In the preceding pages an attempt has been made consistently to apply the general law of demand and supply to the price problem, and to examine the quantity theory by the conclusions thus obtained. The result of the study has not been favorable to the theory. Its treatment both of the money side and the commodity side has been found to be defective. As an explanation of prices it seems to be inadequate when viewed from the theoretical standpoint.

Deductive reasoning, however, is proverbially likely to lead the inquirer astray, unless its results are checked and corrected by inductive investigation. Such a theoretical examination as the

above might well be complemented by applying the test of fact to the theory. If it were found to offer a satisfactory explanation of the price phenomena of actual life, a strong presumption would be created against the criticisms suggested. If, on the other hand, the theory failed to account for observed facts, the case against it would be more complete.

Such an inductive study of the theory has been made by Miss S. McLean Hardy.[1] As data, she has taken the official estimates of the amount of money in circulation in the United States for the years 1860 to 1891, and Dr. Faulkner's price percentages for the same period. The comparison made by her shows that prices fell, during the whole period of thirty-two years, 7.8 per cent., while the quantity of money in circulation increased 243.9 per cent. This leads Miss Hardy to conclude that the course of prices in this country cannot be explained by the quantity theory, as these facts flatly contradict the supposition that an increased supply of money raises prices.

President Walker has replied to Miss Hardy's study, taking the ground that the inductive test applied is not a fair one.[2] He admits that prices have fallen in the United States, while the supply of money has increased; but he attributes this to the fact that the demand for money has increased even more rapidly than the supply. On this supposition he is able to explain the facts adduced by Miss Hardy in accordance with the quantity theory

It may be objected to this answer that it leaves off just at the vital point. President Walker expressly states that his belief that the demand for money has increased is diametrically opposed to a considerable body of opinion.[3] The point, too, is of crucial importance to his position; for unless it can be main-

[1] "The Quantity of Money and Prices, 1860–1891," JOURNAL OF POLITICAL ECONOMY, March 1895.

[2] *Quarterly Journal of Economics*, July 1895. "The Quantity Theory of Money."

[3] "I take issue bluntly," he says, "with the writers of the gold monometallist school generally, Mr. Wells, Mr. Horace White, Mr. Atkinson, Professor Sumner, and others, regarding their unverified assumption that it is in the nature of an advancing industrial civilization to require smaller and still smaller amounts of 'the circulating medium.'"—*Ibid.* p. 378.

tained his defense of the theory falls to the ground. And yet he has not thought it necessary to submit any evidence, or give any reason beyond a mere assertion, in support of his view.[1]

The only sentence in the article which can be regarded as in any way a proof of the statement is that in which it is said that the supply of money in the country has increased, without "the sole sign of inflation — namely rising prices" making its appearance.[2] This is a proof, however, which cannot be accepted by those who doubt the validity of the quantity theory. To quote the lower prices accompanying an increased supply, as a proof that the demand for money must have risen, is merely to reassert the very thing to be proven.

Since President Walker has not explained the grounds on which his confident assertion of the increased demand for money rests, it will not be amiss to collect and examine whatever evidence is available bearing on the subject.

To say that the demand for money has increased, means that the amount of money work to be done has grown more rapidly than the means for performing it. President Walker has explained very clearly that the demand for money is a product of two variables; "the amount of goods which must be exchanged through the intervention of money," on the one hand, and the number of times "each commodity may require to be thus exchanged, on the other."[3] If the demand for money increased between 1860 and 1891, either more goods had to be exchanged by the use of money, or an equal amount had to be exchanged more times, or a greater amount had to be exchanged a greater number of times, at the latter date than at the former.

There can be no doubt whatever that the amount of commodities exchanged in the United States increased vastly during

[1] "The multiplication of commodities due to the increased facilities of production, the marvelous increase of travel, and changes in the habits of our people with respect to carrying and spending money, are continually creating a demand for a larger and still larger volume of actual money, in spite of improved agencies of exchange and rapidly multiplying instruments of credit."—*Quarterly Journal of Economics*, July 1895, p. 379.

[2] *Ibid.* p. 379.

[3] *Ibid.* p. 373.

this period. Of course there are no statistics which show the exact ratio of this increase; but some data are accessible that may be taken as a basis for an estimate.

The increase in the amounts of agricultural products is indicated by the following facts. Between the years 1860 and 1891, the production of cotton increased 89 per cent.; of wool 280 per cent.; of sugar 89 per cent.; of molasses 40 per cent.; of corn 77 per cent.; of wheat 130 per cent.: of farm animals 113 per cent.[1]

In manufactures the increase is even more marked. The census of 1860 reported the total value of manufactured products for that year as $1,885,861,676. The census of 1890 gives the amount as $9,372,438,283. This is an increase of 397 per cent.[2] I have not been able to find statistics which would enable similar estimates to be made of the increased production of mines, fisheries, etc. What has been presented indicates that agricultural production somewhat more than doubled in the thirty years, while the value of the manufacturing output increased nearly fivefold.

Perhaps equally valuable as indications of the increase of transactions are the following more general statistics. The imports of merchandise increased 138 per cent. during the period, while the domestic exports gained 175 per cent.[3] The "true

[1]

	Production, 1860		Production, 1891
Cotton	(million pounds)	2,275.3	4,316.0
Wool (1861)	" "	75.0	285.0
Sugar	" "	255.1	483.4
Molasses	" gallons	17.8	25.0
Corn	" bushels	837.8	1,489.9
Wheat	" "	173.1	399.2

—*Statistical Abstract* (1878 and 1894).

Farm Animals (value 1860) $1,089.3 millions; (value 1891) $2,329.7 millions —*Eighth Census* (1860), volume on Agriculture, p. 185.

[2]

	Value 1860	Value 1891
Manufactures	$1,885.8 millions	$9,372.4 millions.

—*Eighth Census*, Manufactures, p. 742. *Statistical Abstract* (1894), pp. 294 and 359.

[3]

	1860	1891
Imports	$353.6 millions	$844.9 millions
Exports	316.2 "	872.2 "

—*Statistical Abstract* (1894), p. 73.

valuation" of the real and personal property of the country was $16,159,616,068 in 1860 and $65,037,091,197 in 1890; a gain of 302 per cent.[1] The increase of population, on which President Walker lays so much stress, was not quite 91 per cent.[2]

But accompanying this great increase in the amount of commodities exchanged, there has taken place an alteration in the mechanism of distribution, by which the number of times that goods change hands in passing from producer to consumer, has been lessened.[3] The tendency of competition in the last two or three decades has been to concentrate production on the one hand, and to simplify exchange on the other. Large manufacturing companies are in many cases producing their own raw material, or buying it at first hand from the producers, without the intervention of factors. They are selling their products direct to retailers, or even to consumers, in order to save the profits of the jobber or wholesale merchant. This driving out of the "middle-man" is a very important factor to be taken into account in studying the demand for money, because it greatly decreases the number of exchanges to be performed.

So much for the increase of transactions. There has been a considerable gain in the amount of goods, partly offset by a decrease in the number of times that any commodity changes hands.

But as the volume of exchanges has increased there has been

[1] *Statistical Abstract*, p. 372.

[2] *Ibid.* p. 5. Population 1860, 31,443,321; 1890, 62,622,250. According to President Walker's own analysis of the demand for money, it is difficult to see that an increase of population is an indication of an increased demand for money. The demand is the money work to be done, that is the total of goods to be exchanged minus the amount exchanged by the use of non-monetary media. Surely the increase of population is not evidence that the use of credit instruments has declined. Whatever force it has must then be to show that the production of the country has risen. This involves the assumption that more people will have more goods. That may be so, or it may not. There is no necessary connection between the two; nor can it be shown even that there is any regular proportion between an increasing population and an increasing production. At best, the consideration seems but little pertinent to the argument, for it is only the "more goods," not the "more people," that has anything to do with the demand for money, as President Walker explains that term.

[3] Cf. D. A. WELLS, *Recent Economic Changes*, pp. 110, 111.

a concomitant increase in the means for effecting them. These means are of two sorts, monetary and non-monetary. The enlarged use of the latter sort, comprising all the varieties of credit instruments, is one of the most striking features of the age in business circles. "Never before in the history of the world have there been so many and such successful devices invented and adopted for economizing the use of money. Every increase in the facilities for banking, and for the granting and extension of credits, largely contributes to this result; the countries enjoying the maximum of such facilities requiring the smallest comparative amount of coin for their commercial transactions."[1]

Some idea of how extensive this movement has been in the United States may be gained from statistics showing the expansion of our banking system. The *Finance Report* of 1860 gives the number of banks in the country at that time as 1392, with total deposits amounting to $253,802,129.[2] In the fiscal year 1891–2, there were 8029 national, private and state banks in the country, with individual deposits of $2500.1 millions. This is an increase of 476 per cent. in the number of banks, and 885 per cent. in the amount of deposits. If banking houses of all sorts are included, in order to make the comparison with the figures given for 1860 more fair, it appears that the number of banks was almost seven times greater at the later date than at the former, while deposits had increased more than elevenfold.[3]

As every device for performing exchanges and paying debts without the use of money, lessens, by just so much, the demand for money, we should include figures showing the increased use of all such means of payment. The operations of clearing-houses, by which debts are cancelled by being balanced against each other, plainly come under this head. The transactions of the New York clearing house have increased enormously since 1860. In 1890 the clearings amounted to 520.8 per cent., in

[1] *Recent Economic Changes*, p. 211.

[2] *Ibid.* p. 448.

[3] See *Report of the Comptroller of the Treasury* (1892), vol. i. p. 85; and *Statistical Abstract* (1894), p. 43.

1891 to 470.9 per cent., and in 1892 to 501 per cent. of their amount in 1860.[1] The growth of the clearing-house system for the country as a whole has been even more marked. In 1860 only five of these institutions were in operation.[2] In 1891 fifty-seven reported to the Secretary of the Treasury. In that year the total clearings for the United States were over 57 billion dollars.[3]

Many other devices, which are employed to obviate the necessity of using money, might be mentioned; but there exist no statistics which show the extent of their use. Thus, doubtless, a very considerable amount of exchange is performed by means of book accounts, which are balanced against each other, and merely the balances paid by checks or money. All barter transactions also lessen the money work. But such operations leave no trace, and their amount could not be estimated; so that the only account we can take of them is to notice that they afford a broad margin for our calculation.

The great extension in the use of credit instruments indicated by these figures, has been generally recognized as regards wholesale trade. But the idea is often expressed that in retail trade almost all transactions are settled in ready money. This notion, however, is far from being exact. Dr. Kinley has made a careful investigation of this subject with the coöperation of the Comptroller of the Currency. He arrives at the conclusion that less than one-half of all retail transactions are settled by money payments.[4] This indicates that the increase in the need of money, commonly thought to follow an increase in population, is not nearly so great as is usually supposed.

The data will be completed by giving the statistics for the increase of monetary means of exchange. From Miss Hardy's

[1] See table, p. 156, JOURNAL OF POLITICAL ECONOMY for March 1895.

[2] These five were in New York, Boston, Philadelphia, Baltimore and Cleveland.—See LALOR'S *Cyclopædia of Political Science, Political Economy and United States History*, article "Clearing Houses."

[3] *Statistical Abstract* (1894), p. 50.

[4] JOURNAL OF POLITICAL ECONOMY, March 1895.

table[1] it appears that the volume of the currency was almost three and one-half times as great in 1891 as in 1860.

Summing up the evidence which has been presented, it seems (1) that the total increase in the amount of goods to be exchanged varies, so far as estimated, from about twofold in agriculture to a little less than fivefold in manufactures; (2) that the ratio of increase in the volume of transactions was less than this because the average number of times that the same goods changed hands in passing from producer to consumer decreased, owing to alterations in business methods; (3) that of the means for accomplishing this growing money work, the use of credit instruments, as indicated in bank deposits, increased over eleven times for the country as a whole; while (4) the amount of money in use increased three and one-half times.

By a different combination, these data may be made to yield a more definite result. President Walker, it will be recalled, holds that the demand for money is the total amount of exchanges to be performed, minus the portion performed by the use of credit instruments, or by barter.[2] The increased money work in the United States may be roughly measured by taking the increase of transactions as fivefold—which is certainly an exaggerated estimate. Then if there were 100 units of money work to be performed in 1860, there were 500 units in 1891. At the former date the money circulation of the country formed 63 per cent. of the total media of exchange; that is, of the bank-deposit currency plus the money. At the latter date it formed 33 per cent. Then in 1860 the work performed by money was 63 per cent. of 100 units, or 63 units. In 1891 it was 33 per cent. of 500 units, or 165 units. This is an increase of not quite two and two-third times in the work done by money. But meanwhile the amount of the circulating medium had increased nearly three and one-half times.[3]

[1] JOURNAL OF POLITICAL ECONOMY, March 1895, p. 156.

[2] *Political Economy*, p. 133.

[3] As this calculation is of considerable importance to the argument, it will not be amiss to explain particularly the data on which it rests. First as to the bank currency. The *Annual Report of the Secretary of the Treasury* for 1860 (p. 448) gives the deposits

The course of prices in the United States, then, presents a case which cannot be explained by the quantity theory. Prices fell while the supply of money was increasing. The defense offered that the demand rose more rapidly than the supply seems to be founded on a mistaken generalization made without reference to the facts. Thus the results of the inductive study confirm the conclusions arrived at by the theoretical examination. Studied from either point of view, the theory seems to be defective.

WESLEY C. MITCHELL.

UNIVERSITY OF CHICAGO.

in the banks of the United States in that year as $253,802,129. The *Report of the Comptroller of the Currency* for 1892 (Vol. I. p. 85) gives the "individual deposits" (not including savings deposits) of "all state banks, loan and trust companies, savings and private banks, 1891–2," as $1,198,825,545. The *Statistical Abstract* for 1894 (p. 43) gives the "net deposits" of the national banks in the United States, September 25, 1891, as $1,758.6 millions. For the amount of the currency, the estimates in the *Annual Report of the Secretary of the Treasury* for 1893 (Table II. p. cviii) are followed. These give the volume of the currency as $435,407,252 in 1860, and $1,497,440,707 in 1891. Combining these data we find that the bank currency, plus the money in circulation, was $689.2 millions in 1860, of which money composed $435.4 millions or 63 per cent., and $4,454.8 millions in 1891, when the money was $1,497.4 millions, or 33 per cent.

As to the amount of transactions, the estimate of the increase at fivefold seems very large. It will be recollected that the statistics presented above indicate that agricultural production and importation have not increased nearly in this proportion, while even manufactures fell short of it. Besides this, no account is taken of the tendency to a decrease in the volume of transactions, arising from the changes in business methods, which have lessened the average number of times goods are exchanged in passing from producer to consumer. When it is added to this, that all credit media of exchange, (such as clearing house operations, book accounts, etc.), except bank deposits, are excluded entirely,—that is, that all transactions, except those performed by the use of deposit currency, are assumed to be performed by the use of money—the above calculation seems conservative enough.

WAGES IN THE UNITED STATES.

THE CAUSES WHICH DETERMINE WAGES.

PRELIMINARY QUESTION.

BEFORE speaking of the causes which determine wages in the United States, a preliminary question should be answered: Is the wage-system only a transitory mode of organization of labor, which is in time destined to disappear? If this be so, it would seem an idle task to attempt a detailed study of it, and it would be more profitable for us to devote ourselves to the consideration of a substitute for it.

The fact that slavery, serfdom and the wage-system appear to be the successive phases in the history of economic development has led to the belief that something else will in turn take the place of the wage-system. The socialists, from the days of St. Simon and Fourier, have denounced the wage-system as a form of the subjection of the proletariat; they have had a glimpse in their dreams of a fourth phase of civilization, one of the conditions of which is to be the suppression of private property. Those who, with them, are possessed of this faith, live in the illusion; those who declaim against the wage-system for policy's sake, without really holding this belief, commit a great wrong, for by so doing they turn the mind of the laborer away from practical means for the amelioration of his lot, and foment social discord. In general the socialist schools openly profess this doctrine of an ultimate displacement of the wage-system; the two largest labor associations in the United States are affected by it in their theoretical position, while seeking in practice and for the time being to increase the earnings and the leisure of the workman.

The truth is that wage-laborers have existed at all times, even when the majority of laborers were slaves. Wage-labor, which is, so to speak, inherent in the relations of man, has

developed in proportion as individual liberty has advanced, will last as long as liberty itself, and will be one of the conditions of social organization. The wage relation is a contract, not only legitimate, but naturally indispensable to the producers and advantageous to both contracting parties. The direction of an enterprise is a difficult, delicate and hazardous task, for which not everyone is fitted, and in which many who make the attempt fail; the so-called co-operative association is ordinarily still more difficult to conduct, and is therefore not suited for everybody or for all purposes.

The employment of wage-labor is therefore not only a right, as one of the legitimate forms of the freedom of labor, but is an economic necessity as well, whether it be exercised by the individual owner of an enterprise, or by a director intrusted with the management of the affairs of a corporation. Under the direction of the master there must be co-laborers, and the greater the concentration of industry, the larger the number of such laborers will a single enterprise bring together. Now, I have elsewhere shown that industry is tending to concentration. The services of the laborers employed are paid a price agreed upon in advance, and are therefore much more conveniently and more regularly paid than they would be if their reward depended on the chance of an eventual profit, as is the case with the shareholders in a joint-stock company, and more equitably than if it were dependent upon the arbitrary will of a board of directors. What we ought to strive for is not the utopian ideal of the suppression of the wage-system, but better conditions under which the wage-system may operate — to the advantage of those who sell and those who buy labor.

When labor is applied to the production of material goods — which is the most usual case — it is one factor in the creation of a joint product resulting from the co-operation of employer, capital and labor, or, in other words, of the labor of supervision, the labor of the workman, and the services of capital. The proportion which belongs to each of these factors in the management and execution of the work, and in the market value of the

product, and the proportion of the value received by each before or after the completion of the work, is not the same in all cases and is not invariable; it is the privilege of each of the three factors to have some say in the determination of its own portion. The laborer's share then depends, in part at least, upon his skill and the manner in which he asserts his claim.

All labor is not applied directly to production. The wage-contract is of the nature of a lease, in which the lessor furnishes his labor and his time, and the lessee his money. It includes therefore, besides the laborer in the narrower sense of the word, such persons as work for wages, but whose labor does not result in a material, tangible product; and for these categories of laborers, it must be admitted that the remuneration could not be directly measured by their product. The socialist schools which start from Proudhon and Karl Marx (who seems to have modified his views toward the end of his life) by a singular disregard of the facts lay it down as a fundamental principle that the labor of the workman creates the whole of the value of the product, and it is on the strength of this absurdity that they pronounce judgment on the wage-system, because it assigns to labor only a part of this value. But they have great difficulty in reconciling their theory with the existence of labor which does not result in a material product; while on the other hand their value-theory will itself not stand examination, and the principles they draw from it are in contradiction with economic science as well as with common sense. Their condemnation of it alone will not do away with the wage-system.

Wage-labor, then, is not a transitory phenomenon in free societies, and especially in the United States; it is, indeed, probable that it is on the increase, *i. e.*, that the numerical proportion of wage-laborers to undertakers will go on increasing, through the influence of machinery, as it has increased in Europe, and especially in France, by the suppression of the trade guilds. It will therefore be in place to discuss the causes which determine the rates of wages in the United States and the manner in which these causes operate.

My present discussion of the question is concerned only with nominal wages, *i. e.*, the sum of money which the laborer receives; and I speak only incidentally of real wages, that is, the means of livelihood which he can purchase with the money. The latter is a phase of the question which can be taken up only after we have discussed his mode of living.

CUSTOM.

What are the wages paid today in any given place or in any given factory? The rate is so and so much. The greater part of workmen and of masters do not look farther but accept what is customary. It is often, indeed, the answer to this question of the customary wage which determines whether workmen are to be brought together for a given enterprise. Custom then has an important influence in fixing the rate of wages. The objection might be urged that the word custom is only the expression of a fact, and explains nothing. Without doubt every fact has a cause, and the customary wage, like every other wage, is determined by the law of wages. But by the very fact of its existence somewhere, a certain rate contains in itself a force of inertia which often maintains it for a longer time than the strictly economic conditions which produced it require. For this reason custom should itself be reckoned as one of the causes determining wages. It is in a sense the conserving factor of wages; wages are more stable than the prices of commodities, and it is to custom in part that this relative stability is due.

Custom makes its influence felt everywhere, but more especially in the case of low wages than of high wages, in countries where the people are not educated and free than where they are. Where the working classes, by habits of thought and corporative organization, are in a condition to look after their own interests, tradition loses its force, wages are determined more and more by the actual and varying relation between demand and supply.

A wage-scale is for the time more imperious than custom, because it constitutes a contract made for a certain length of

time between employers and employés who have agreed to accept such a scale. It is ordinarily for only six months or a year that such a wage-scale contract is made. Americans would be reluctant to bind themselves for too long a time. Such a scale is either individual, *i. e.*, between a single workman and his employer, or collective, *i. e.*, between an employer or an association of employers and an association of workmen. This latter case, which is quite common in America, especially in the building trades and the mining industries, presupposes a strong organization on the part of the laborers and makes wages more variable and more strictly proportional to the value of the product than does custom. The democratic ideas of the American people serve to strengthen the custom of high wages. What M. de Tocqueville said sixty years ago in this regard will bear repetition: "The slow progressive rise of wages is one of the general laws governing democratic societies. In proportion as conditions become more equal, wages rise, and in proportion as wages rise conditions become more equal. . . . In the continual struggle over wages between masters and workmen, the forces are then divided, the successes alternate. It is even to be believed that in the long run the interest of the workmen is bound to prevail, for the high wages they have received render them every day less dependent on their masters."[1]

SUPPLY AND DEMAND.

"Supply and demand" is the supreme law of value; it determines the rate of wages and the price of commodities. Socialists, and even certain economists who reject this law or treat it disdainfully as a "truism," have proved nothing more than their own inability to comprehend it. It is true that when one says supply and demand of labor, the conditions which determine each of them, and which also determine variations in the rates of wages

[1] *Democracy in America*, part iii. chap. vii.—The author did not see as far into the future when he wrote (chap. v): "They do not dispute with each other in regard to the position they occupy, but each party knows his position and holds to it. . . . At the bottom of their hearts neither master nor workman any longer sees any profound difference between them.

still remain unknown. For this law includes and sums up all these causes: productivity of labor, which stimulates the demand for labor; competition between employers, which increases the demand as competition among workmen increases the supply; cost of living, which drives away the supply when the demand offers too small a remuneration; abundance of capital, which multiplies the demand; consumption of products, which when active works in the same direction; improvement of machinery, which may at first lessen the demand, but may also increase it if the low price of the product calls forth an excessive increase in consumption; immigration, which increases the supply; education, which displaces the supply of labor of inferior grades by labor of superior grades, and may consequently be favorable to low wages and unfavorable to exceptionally high wages; labor organizations, which may bring about the consolidation of a supply previously unorganized, in the same way as organizations of employers may concentrate demand.

PRODUCTIVITY OF LABOR.

Productivity of labor is assuredly the one of these special causes which deserves a place in the first rank. The wage system is a mode of distribution of wealth by which the workman receives, by anticipation and according to a rate fixed in advance, a share in the probable value of the commodity in whose production he has assisted. It is evident that labor of a kind which creates no value would furnish no basis for a wage, and that anyone who should pay for such labor would do so at a clear loss; that on the contrary, if the labor of the workman, because of its qualitative or quantitative excellence, adds much to the value of the product, there is a basis for a good remuneration, and the laborer has a right to it. Yet the laborer must know how to make his right good in the competition of supply and demand, for the undertaker will be the last one to offer it to him. "If the wage-laborer," says General Walker in one of the best treatises published on wages, "does not pursue his interest he loses his interest."[1]

[1] *The Wages Question*, chap. x.

In piece-labor the relation of wages to the product is more apparent than in day-labor. The chairman of the commission appointed to investigate the Homestead troubles asked the director of the Carnegie Company upon what basis he determined the maximum and minimum wage in his scale; "Upon the selling price of our products," was the reply. He might have added, however, that he did not follow all the variations in price, and that the determination before the commodity was produced and sold could be only approximate.

General Walker has put forward the productivity of labor as the supreme law of wages, and a number of American economists, notably Mr. Schoenhof, have adopted this theory.[1] Mr. Atkinson also in reality ends with the productivity of labor. "Wages are a consequence, a resultant, a remainder after capital has received the profit which decided it to undertake the venture; the rate of wages cannot therefore be considered as the true measure of the cost of production. Wages are a resultant and their rate is, or ought to be, at the end of the count, determined by what the finished product brings in, and not by what the capitalist may promise or is willing to pay for a certain time."[2] Farther on the author says that low wages are not necessary to low cost of production, that on the contrary they ordinarily indicate a high cost of production.

Without doubt the American laborer works hard and is well supplied with tools. Without doubt, too, the American employer who by virtue of custom pays him high wages and is eager for gain, would not support him in idleness; he furnishes his works with the most powerful and the most economical machinery and gets the most he can from the man and from the tools.

Professor Laughlin who, in his *Elements of Political Economy*, supports, with various modifications and improvements, the wage

[1] "A high rate of wages signifies a high degree of productivity and implies a large power of consumption. A rise of this rate simply indicates that a change has taken place in the direction of an economy in production."—*The Economy of High Wages*, p. 63.

[2] *The Distribution of Products*, pp. 53 and 63.

theory of John Stuart Mill, accepts the general productivity of labor as the cause of a high or a low rate of wages; he rightly adds that wages fluctuate above or below this level up to the moment when the demand and supply of labor determine the precise point finally agreed upon between the employer and the employee.

European economists, before the publication of General Francis A. Walker's work, had spoken of the influence of productivity, especially Thornton in his work *On Labor*. M. Paul Leroy-Beaulieu, who had alluded to it in his *Travail des Femmes au XIX^e Siècle*, comes forward in his *Traité Théorique et Pratique d'Économie Politique* to claim a share in the authorship of this doctrine.[1]

For my part, I have always placed the productivity of labor in the front rank among the causes of wages; for twenty-five years I have taught in the *Conservatoire des Arts et Métiers*, and have furthermore said in my *Précis d'Économie Politique*, that between labor and products, both of them commodities, there exists an essential difference which consists in the fact that *products tend to be sold for what they cost, while labor tends to be paid what it is worth, i. e.*, the price of products, by competition, tends to approach cost of production, while wages tend to correspond to a certain degree to the productivity of the laborer.[2]

Under the head of "An Economic Paradox" I have often demonstrated in my lectures how with higher wages and more expensive raw materials a manufacturer could sell his wares cheaper and at the same time make more profit for himself; all that is required is that he should have machinery powerful enough to produce a much larger quantity in the same time and with the same laborers; it is a demonstration of the productivity of labor.[3]

[1] Vol. ii. pp. 268, 280.

[2] Mr. Hewitt, in his Inaugural Address as President of the Society of Engineers (p. 20), expresses almost the same thought, drawn from the works of Mr. Atkinson: "The law discovered by Atkinson and demonstrated by Giffen, that labor receives an ever increasing share in the product, and capital an ever diminishing share, but that the increase of production assures capital an equivalent remuneration. . . ."

[3] *Précis d'Économie Politique*, p. 35.

But I have always taken care to add that we must not regard productivity as the sole rule, nor as a rule without exception; for servants in America are paid more than in Europe, although in general they do less work there than they do in France; they are paid more now in nearly every country than they were fifty years ago, although they do no more work.

Furthermore, we must not believe that the laborer, properly so-called, receives at all times and in all industries a reward exactly proportional to the value which he produces.

In America as in Europe, a spinner working with machinery and turning out a thousand times more thread than one using the old fashioned spinning-wheel, receives more money than formerly, but is far from receiving a thousand times more. When an undertaker begins a manufacture he does not say to himself: "A spinner with a spinning-wheel used to make five bundles per day; a laborer with two boys to assist him tending machines makes 50,000 bundles a day. I will therefore pay them 10,000 times as much to divide between them." That would be absurd. He asks himself how much it is customary to pay per day in the locality, and after calculating whether, with his plant, he will be able to produce and sell to advantage at the actual market price, he offers the usual wage, with the certainty that laborers will respond to his call.

If he thinks that with his plant he can produce at a great advantage, he offers a little more than the ordinary wage, in order to attract good workmen, and this is the way wages rise with the productivity of labor; but the advance offered is by no means in the proportion of the increased quantity produced. As a matter of fact the wages of spinners have increased during the last fifty years, but the value of the yarn has fallen in an infinitely greater proportion, and the consumer is the one who has gained most from the change. Of course, the laborer is a consumer, and in so far he has gained by the change.

More than thirty years ago I endeavoured to explain this economic phenomenon in a pamphlet entitled *Le Rôle de l'Intelligence dans la Production.* It is not to be understood that wages

always rise with an increase in productivity. A good mechanic received higher wages when only relatively few men knew how to tend a machine than he does today after this kind of skill has become common; and yet he performs no less labor than before. The productivity of labor acts in divers ways in determining the rate of wages. In general we may say that at first wages and profits rise when the same amount of effort produces greater results, and therefore more money; but very soon the price of the product falls, until, by the action of competition, wages and profits are brought to the usual level, although wages do not ordinarily fall as low as before. If the product was difficult to manufacture before the invention of the machine, skilled labor was necessary and the rate of wages was correspondingly high; if the machine is so perfect as to make the labor of the workman easy, ordinary labor may replace the skilled labor previously employed, and the average of wages in that trade may fall. This phenomenon has occurred in several trades in the United States; tailors in particular have complained bitterly on this score. In America, then, as in Europe there are cases where the laborer receives less pay than formerly and yet produces a much greater quantity of goods, and even a greater value. This result runs counter to the rule that wages are proportional to productivity. A study of the facts, therefore, gives the lie to all absolute theories which would assign a single cause to the rate of wages. Nevertheless we may safely assert that the productivity of labor is one of the chief causes of high wages in America; for shirking does not occur to any extent. The laborer works hard and has to give close attention to his work, in consequence of his being supplied with more powerful machinery than in any other country.

There is one important consequence distinctly to be drawn from this: The rate of wages and the cost of production of commodities do not stand in any necessary proportional relation to each other. Neither, we may add, do cost of production and selling-price; for although the selling-price strongly tends to conform to the cost of production under the free play of com-

petition, yet there are considerable deviations owing to certain causes which need not be specified here. Wages constitute one of the elements in cost of production, in the majority of cases today, indeed, the predominant element; that is the reason why the cost of building has risen so high in the United States. But in cases where machinery or, speaking generally, capital exercises the dominant influence, wages and cost usually tend in opposite directions, *i. e.*, wages may increase, and often do increase, at the same time that the value of the commodity decreases; that is precisely what has taken place in the spinning trade, and is what I have termed An Economic Paradox. It is one of the most fortunate results of industrial progress.

COST OF LIVING.

Cost of living is also one of the causes which deserve to be mentioned in the front rank. The laborer's family must of course be supported out of the results of his labor; but there are many different ways of living, and it may be said that cost of living has no more a lower limit than it has an upper one.[1] From the cost of living of the iron-roller earning ten dollars a day, or even of the blacksmith earning thirty-five dollars a week, to that of the sweat-shop hand with wages reduced to one dollar a day, there is a long descending series from comfort to actual want. A laborer of French origin once said to me: "The American laborer will live on anything." The Indian mason who earns eight annas a day[2] (about twenty cents at the par value of silver, or ten cents at the actual price), and the Japanese[3] workman whose wage is equivalent to twenty or twenty-five cents, certainly do not live in the same manner as the New York mason who earns four dollars a day.

I have cited the evidence of an American laborer who said

[1] See F. A. WALKER, *The Wages Question*, chap. vii., "Necessary Wages."

[2] The carpenters employed on the canals of Oussa in 1892 earned 7 and 5 annas; in other localities they received on the average 15 rupees a month.—See *Prices and Wages in India* (Calcutta, 1893).

[3] See BOISSONADE, *A Survey of the Progress of Modern Japan*, in the proceedings of the Academy of Moral and Political Science.

that on less than four dollars per day, which is less than thirty or forty times as much as these Asiatics receive, a laborer could not decently support a family. How many of the upper class in America and Europe would say four dollars? The Workingmen's party in the United States regard the "standard of living" as the true determinant of the rate of wages. "Wages have been and always will be determined by the actual conditions of life and whatever tends to raise the standard of decency and comfort must of necessity influence the standard of wages.[1] Hence the great problem of the day is not how to increase production, in a market already overcrowded, but how to increase consumption and thus extend the demand." This is the way one of the champions of the "American Federation of Labor" expresses himself, in a pamphlet written for workingmen.[2]

"Why," asks another, "does the laborer receive higher wages in places where the standard of living is high than where it is low? Answer, Because in the one place the standard of living is high and in the other it is low. That is the great law. The standard of living determines wages. It is true that in some places and at some times wages rise above the standard of living, but this deviation does not last long and very soon the law is confirmed by a fall in wages to the old level. Nevertheless, if the standard of living rises above the level of wages, it will maintain itself. Question, What determines the standard of living? Answer, As a general rule for all places and all times, the demand for an increase of wages is the consequence of the pressure exerted by new needs and new wants. A man who knows how to read and wishes to read will demand a wage which will permit him to buy books. Rest from labor on Sunday necessitates a wage which enables the laborer by working six days to earn enough for seven; shabby clothes make shabby wages; poor lodging causes poor wages. On the contrary good clothes, good

[1] "As wages are governed by the standard of living and the standard of living is governed by the social wants of the laborer . . . ." says a third.—G. GUNTON. *Eight-Hour Movement*, No. 2, p. 11.

[2] DANRYRD, *Eight-Hour Movement*, No. 3, p. 9.

food, good lodging mean good wages. Your wages will be higher only when you feel the need of a higher standard of life." In support of his argument the author cites various mutilated extracts from several economists, which he thinks support his opinion; there are in fact some distinguished economists who come very near professing this doctrine.[1] The author ends his workingman's catechism by saying that history and experience teach that the great motive of man is for the bettering of his condition, that organization is the best means for reaching a better condition, that leisure creates new needs, and that leisure must be secured, that time is money, and that the laborer should endeavor to get as much as possible for his time or give the least possible time for the money he gets.[2]

The Workingmen's party in America misuse the principle of cost of living in attempting to prove from it that the laborer is paid in proportion to this cost, and that the only thing necessary for higher wages is to have a larger number of wants. Socialists like Lassalle and Marx misuse it in the opposite sense, saying that wages have a fatal tendency to descend to minimum cost of living, according to what Lassalle called the iron law of wages. The real law which governs the actual phenomena is not so inflexible as either side has imagined. Political economy, enlightened by a study of the facts, has solved the contradiction and shown that the minimum cost of living is not a hard and fast line, but a moving standard which varies considerably according to the state of civilization. The American laborer is at the top of this scale.

The Workingmen's party, then, whose arguments are plausible because they contain a considerable proportion of truth, are much too absolute in their opinions, as are also those economists who would make the productivity of labor the sole law of wages. Their theory results from a superficial and incomplete

[1] "That the standard of comfort determines the rate of wages is a doctrine sustained for over a hundred years by economists of the highest authority, and confirmed so fully by a mass of facts gathered in different countries that it is hard to contradict it."—R. T. ELY. *Introduction to Political Economy* p. 221.

[2] See GEO. E. MCNEILL. *The Eight-Hour Primer*, No. 1.

view of the phenomena. Without doubt the standard of living, determined by the aggregate of needs customarily satisfied, has its influence on wages, but rather to maintain than to raise them. But this standard is not arbitrarily established by the workers themselves; it is an effect before it is a cause, and remains an effect rather than a cause.[1] As effect it is the result of the productivity of labor and of the general wealth of the country, and results directly from the remuneration of labor itself, for the laborer accustoms himself to a mode of living which corresponds to his wage. As cause it prevents the laborer in normal times from accepting a wage below the rate which is customary to his trade, precisely because the customary wage corresponds to the mode of living common to persons of his condition. Every laborer spends more as he earns more. A printer in New York would have great difficulty in regulating his expenditure according to that of a weaver in Nashua. In America and in France, the laborers of the eighteenth century did not have the same needs nor the same cost of living as the laborers of today. When wages have once risen to a certain level, and the working class have gradually accommodated their mode of living to that level, it is very hard for them, as it is for all classes of society, to accommodate themselves to a reduced standard. They will defend themselves as best they can; their weapons are chiefly strikes, which are not of infrequent occurrence. Custom helps to sustain this level for some time, acting as a conservative element. But as it is better to live miserably than not to live at all, the laborer, after resisting as long as he can, finally yields to the continual pressure of necessity; when an industry leaves a country, the laborer sometimes has no alternative but that of emigrating or of dying of hunger. An anecdote taken from the senate inquiry of 1883 well illustrates this situation: "In 1842 the factories of Massachusetts were all closing," said one of the witnesses. "I did not possess sufficient capital to

[1] M. LEROY-BEAULIEU is right in saying, "It is evident that it is the remuneration of the laborer which determines his mode of living, and not his mode of living which determines his remuneration."—*Traité Théorique et Pratique d'Économie Politique*, vol. ii. p. 261.

keep my works going at a loss. So I told my men that I would have to stop work during the winter unless they would consent to a reduction of wages; they refused. One man, the father of six children, said to me that he would rather send his family to the poorhouse than work for a lower wage. I closed my works and spent the winter with my wife at the home of my father. I returned in the spring and started a fire in the factory. On perceiving the smoke, the laborers came in a crowd from the vicinity and asked me if I was going to begin work. The same man was in the crowd. 'Are you going to start up?' he asked. 'I don't know.' 'Start up for heaven's sake, and give us whatever pay you can. I have had no work all winter, except occasionally splitting wood for fifty cents a cord; I could only split a cord a day and with that have supported my family all winter.' 'I could have done better for you than that, but you said you would rather go to the poorhouse.' 'Yes, but I was wrong; I would be glad to work now.' When my men saw that they had to be content with a certain wage or get none at all, they came back to me."[1]

COMPETITION.

Competition between laborers and between employers is one of the most important elements in the determination of wages; it is essentially a play of supply and demand. In this respect there is one fact which does not work to the advantage of the American laborer, viz., immigration, which brings over every year half a million men, and often more, increases the supply and creates a competition all the more disagreeable because these men, coming as they do from countries where wages, and consequently the standard of living, are much lower, constitute a supply of cheap labor which is constantly renewed. This influence is most felt in the eastern states where the ports of entry are; it is certainly one of the reasons why wages are lower there, although manufactures and wealth are more abundant, than in the West. American laborers feel this; hence their hatred and

[1] *Investigations of the Senate*, "Labor and Capital," iii. 289.

their proscription of the Chinese, who sell their labor at so low a price; hence the feeling of suspicion toward the French Canadians, Italians and Russian Jews; hence the efforts of the laborers to restrict the immigration of foreigners by legislation, and the support granted this measure by the People's party. Of the laws passed to satisfy the demands of the workingmen, some are justified on ethical grounds, others are to be condemned in the name of liberty. It is true that the majority of protective-tariff laws care little for the principle of liberty; those which stop wheat or woolen goods at the frontier in order to enhance the rent of the landlord or the profit of the manufacturer are less defensible even than those by means of which the laborer contends for his own well-being. Legislation of this class is not inspired by the sentiment of justice, but is dictated by the particular interest of the majority or by a politically preponderant influence.

Labor has in general greater mobility in America than elsewhere; when there is opportunity to obtain a higher remuneration anywhere, labor flocks to that place, easily changing its residence and even its trade. Is this mobility an advantage to the laborer? It certainly contributes in some degree to make wages uniform throughout the United States. General Walker says it also serves to raise the general level of wages,[1] and I agree with him, because it has a powerful effect in driving labor away from places where its oversupply is beginning to cause a depreciation of wages. The American workman has against him today the concentration and organization of industry, which diminishes the competition between employers and facilitates their united action; we have already seen how rapid is this movement toward concentration in the United States. Labor is endeavoring to counterbalance this influence by that of trades-unions. In America these associations have neither law nor public opinion against them; they act in the full light of day. Moreover, for a long time the courts have not condemned strikers; they punish only for acts of violence specified and proved. As mutual

[1] *The Wages Question*, part i. chaps. iv. and x.

respect for individual rights and equal liberty are hard to put in practice among men, the play of competition is very fierce in the United States. In some trades, *e. g.*, the building trade, the laborers have almost made themselves masters of the situation, and come very near dictating terms to their employers; whence it follows that the price of building has risen very high. But in certain of the great mills and manufactures the employers are strong enough to admit trades-unions only under certain conditions and sometimes even not at all.

When a close examination is made of the events that have taken place in the United States and Europe during the last fifteen years, the conviction is carried away that trades-unions have become one of the great powers of the industrial world, and that this power, drawing its strength from combination has, either by strikes or by amicable agreements, exerted a great influence upon certain wages, and upon other terms also of the wage-contract. This, however, need not mean, as some of the spokesmen of labor would have us believe, that trades-unions are becoming our masters and that they can regulate things to suit their fancy; wages may rise without any intervention on their part, as is shown by the rise in wages of farm-laborers and servants. Moreover they can raise wages and keep them at the higher level only in so far as the double standard of the productivity of labor and the general wealth of the country will allow. Now, the strikes which these agitators excite impair this general wealth, and if they occur too frequently or are followed by too disastrous consequences in the future, they will finally frighten capital, disturb the spirit of enterprise, stop the increase of the wages-fund, or even diminish the actual fund in existence, in which case wages would fall.

One of the most distinguished economists in the United States, Professor Laughlin, is of the opinion that trades-unions disturb the natural rate of wages by forcing the market, on the one hand, in order to raise the wages of their members, and, on the other hand, by depressing the wages of non-union workmen, whom the trades-unions aim to exclude from all work. "The

strikers gain at the expense of other workmen." The remark is just, but it will not cause a single union to go back upon its pretentions to monopoly, because in the conflict of interests any individual, or any group, on whatever theoretical ground it may justify itself, will always look after its own interests and not after that of others, and generally in the conviction, too, that its cause is the cause of humanity.

Laws which, in some cases with good effect, impose restrictions on the labor of women and children, or which shorten the working day, restrict the action of competition; the working classes are right when they say that the influence of such laws is to raise the price of an hour's work. They are not so clearly in the right when they think that such laws do not lessen the total remuneration for the day thus shortened and that they do not hinder the performance of certain kinds of labor.

CAPITAL, ITS PRODUCTION AND CONSUMPTION.

The old wages-fund theory which John Stuart Mill maintained, assumed the existence of a certain amount of capital which was expended in paying wages, and which at any given time could be neither increased nor diminished; so that if any part of the working class received a larger share through a rise in wages, the share of the other part would be necessarily diminished; or if the number of laborers increased, they would have to submit to a reduction in wages proportional to their increase in number. The inadequacy of this theory has been demonstrated,[1] but that is no reason for rejecting it entirely. As a matter of fact there does not exist any such fund of free capital, laid away as it were in a fixed quantity in some special till, for the payment of labor during the course of a year. But it is evident that labor cannot be employed without workshops, tools and materials, and for all this there must be fixed and circulating capital. Further, before the product is finished and paid for by the consumer, the labor expended on it must nearly always be

[1] See, among other American works on this question: *The Wages Question* by F. A. WALKER, part i. chap. ix.; and *Traité Théorique et Pratique d'Économie Politique* by M PAUL LEROY BEAULIEU, vol. ii. p. 261.

advanced for a certain length of time, and for that there must be circulating capital,—the very thing the wages-fund theory refers to. In general it is capital that makes this advance. But even in case the undertaker gets the remuneration for his service before paying his employees for their labor, as in the case of railroads,[1] fixed capital has previously had to be advanced for the roadbed and the materials. The more abundant the supply of capital, under whatever form it may be employed, the greater the number of laborers that can be hired, and the higher ordinarily will be the wages offered; that is not to be doubted. But, furthermore, the more quickly these laborers produce, or the more quickly consumption absorbs their product, the more quickly also will capital be renewed. A single circulating capital then, if it is quickly renewed, may, during the course of the year, command more labor, expend more in wages, and as the result of the increased demand pay higher wages, than if it remained relatively inactive. The laborer himself each day helps to increase the supply of capital, and by using the proceeds of his wages in consumption increases the rapidity of circulation of capital.[2]

RESUMÉ.

We may say that the United States is rich relatively, because, thanks to the natural richness of the soil and to the activity of its population, it has enjoyed an almost unbroken economic growth in all directions, which has produced an ever-increasing demand for labor, and has kept up production by a consumption whose individual average is higher than that of Europe. To sum up, then, *wages are regulated by a complex cause*,[3] which, acting in various

[1] *The Wages Question*, p. 134.

[2] "If production furnishes the measure of wages then the wages class is entitled to the immediate benefit of every improvement in science and art, every discovery of resources in nature, every advance in their own industrial character. Surely it is not a small matter that the laborer should find a measure of his wages in the present and the future, rather than in the past." Such is the resumé of the doctrine of General Walker.—*The Wages Question*, p. 411.

[3] In the *Quarterly Journal of Economics* MR. CHARLES BEARDSLEY says very correctly: "According to the theory that wages are limited by capital, wages might rise

ways upon *supply and demand*, determines the particular rate of each industry and of each individual as well as the general average rate. These causes are: (1) *The productivity of labor*, which is the chief factor in the determination of a graduated scale of wages according to merit, as well as in the general prevalence of high wages in the present century; (2) *competition*, which is affected in a sense favorable to the interests of the laborer by the advance of industry, and to his detriment by immigration, and which is also restricted in its action by organizations on the part of employers or laborers; (3) *cost of living*, which, while properly a result of his wages, at the same time affords a support to the laborer in resisting any reduction in wages; (4) the *capital* employed in industry as fixed or as circulating capital (the latter corresponding pretty nearly to the wages fund), the influence of the latter being affected not only by its quantity but also by its rapidity of circulation; (5) the *general condition of wealth* of the country; (6) the *total consumption*. These rules apply in America as well as in Europe. But in a new country like America many of them act with greater intensity than in Europe; the higher productivity of labor, higher cost of living, and the more rapid circulation of capital, act to raise wages, whereas the competition resulting from immigration acts to depress them.

Secondary causes often complicate the problem of wages. Wages may be paid in money or in kind. In the United States the custom was at one time to pay part in money and part in commodities or provisions, and it is so still in some regions. This system, which in certain cases may be justified by the scarcity of money, makes a precise determination of the rate of wages impossible; it leaves less freedom to the laborer than the system of money payment, and it not infrequently happens that it acts to the disadvantage of the laborer on account of the increased profit which the employer can make by selling his commodities to his employees. Wages may be paid at long or

if capital increased. According to the doctrine that wages depend on product, wages may rise if the product increases. Both theories ignore the fact that a change in the volume of the national dividend may be accompanied by a readjustment of the relative proportions of the shares in distribution . . . "—July 1895, p. 452.

short intervals. In the United States it has long been the custom to settle accounts only once a year; this binds the laborer to the factory, and amounts to a depreciation of wages. Fortnightly or weekly payment, which is much more desirable, has made some progress, due to an increased abundance of the precious metals and the increase in strength of the laborers; it is energetically demanded by the trade-unions. Wages may be paid in good money or in depreciated. Payment in depreciated money is not honest payment. The laborer nominally receives a larger sum than before, and may be deceived for some time; but as he has to pay more for everything he buys, his condition is not improved; rather, he is worse off, because in such cases a rise in nominal wages does not usually precede, but follows some distance behind the rise in prices. The American laborer has had experience of this under the paper-money régime during and immediately after the War of the Rebellion. The illusion produced by the high wages of this period is very often the cause of an error of judgment on the part of American laborers. They assert that wages have fallen because statistics show that the number of dollars earned per week at that time was greater than that earned after the resumption of specie payments, and in certain trades even greater than that earned today. They would avoid this error if they took the trouble to compare this nominal gain with the increased nominal expenses of the same period.

ÉMILE LEVASSEUR.

PARIS.

THE VIENNA MONETARY TREATY OF 1857.

THE monetary history of Germany prior to 1871 affords an interesting instance of an attempt at international monetary action. This is not the less instructive for having received comparatively little attention. It not only possesses a historical interest but has also a bearing upon the present. Its historical importance is dependent partly upon the place it occupies in German history, but primarily upon the fact that the international monetary action of Germany was the direct precursor of that taken by France and the countries of the "Latin Union." This connection between the monetary policies of Germany and France will be the more easily apprehended if we remember that the Latin Union was not a "bimetallic" league; it was, like the German, an attempt at international monetary action, and was primarily intended merely to overcome certain minor difficulties with subsidiary coin. Its supposed "bimetallic" character was only foisted upon it by subsequent events. It was the direct successor of the German league, both lineally and chronologically.

The connection of the German union with present day interests lies in its bearing upon international bimetallism. International bimetallism involves two different questions: the fixing of a ratio between gold and silver and international monetary action. It is upon the second of these that light may be thrown by a study of the German experiment.

I.

The movement for German unification, which first took definite form in the series of agreements beginning with the Zollverein treaty of 1834, did not confine itself to the regulation of tariffs, but included, in its catalogue of reforms, an attempt to systematize the coinage of the different states. This was a step second only in importance to the removal of commercial restrictions aimed at by the Zollverein. During a period of more than three

hundred years, attempts to introduce some degree of uniformity into the conflicting monetary systems of the German states had at various times been made. These had proved almost completely fruitless. At the close of the eighteenth century the condition of monetary affairs in Germany, although slightly more satisfactory than in earlier days, amounted almost to chaos. The necessity for harmony in the systems of weights, measures and money, had only been made more apparent by the new tariff legislation. How complete the confusion was can be easily imagined from the fact that no less than three different units of weight were in common use as the bases of different monetary systems in various parts of Germany,[1] while the systems themselves were very numerous as well as diverse.[2]

It was not strange, therefore, that the reform movement should turn its attention to the monetary system when once the Zollverein had laid the foundation of an *entente cordiale* between the states. As early as 1834, Hanover, in the law of April 8, and Brunswick, in that of December 18, had made some attempt at harmonizing their coinage systems, by the adoption of the Prussian plan of subdividing the mark of fine silver[3] into 14 thalers or 21 gulden.[4] These measures brought the subject prominently forward, and during the succeeding years it was widely discussed. The next step forward was taken by South Germany. On August 25, 1837, a conference was held at Munich. Bavaria, Würtemberg, Baden, Hesse-Darmstadt, Nassau and Frankfort were represented, and a plan for a uniform money was agreed upon. The mark of fine silver was to be divided into 24½ gulden, each of which was to consist of 60

[1] The Vienna mark of 243.870 grams, the Cologne mark of 243.870 grams, and the Prussian mark of 233.855 grams.

[2] For information on early German currency history, *cf.* SOETBEER, *Deutsche Münzverfassung*, pp. 1–3, etc.; "La Réforme Monétaire en Allemagne," *Journal des Économistes*, 1857, ii. i. pp. 336 *et seq.*; STENZEL, *Geschichte des Preussischen Staates*, vol. i. pp. 438 *et seq.*; vol. iii. pp. 290 *et seq.*; vol. v. pp. 141 *et seq.*, etc.; *Reichsstatisches Conclusum, Ratisbon*, 1666; also SHAW, *History of Currency*, pp. 199 *et seq.*

[3] Equal to 233.855 grams.

[4] See SOETBEER, *op. cit.*

kreutzers. But while this effort was quite in accordance with the spirit of the times, and really meant some advance, it nevertheless was not in harmony with the Prussian system which prevailed over a large area. It was therefore felt that the existing régime would prove unsatisfactory, and, in May 1838, a congress of the German states at Dresden decided upon the so-called "Universal Monetary Union."[1] This treaty did not attempt to disturb the two modes of accounting already extensively in use. It retained both the division of the mark of silver into 24½ gulden and the division into 14 thalers, basing both upon the Prussian mint weight of 233.855 grams to the mark and fixing the equivalence at 1 thaler to 1.75 gulden. Each of these systems was to prevail in certain carefully specified states, and it was provided that in no case should any state strike coins which did not form a part of its own special system.[2] In order to bridge the gap between the coinages of the two groups of states, further provision was made for the coins of the union which should possess full legal-tender quality everywhere within its limits. These were to be coined by each state in proportion to population, and were not to exceed, in the aggregate, 2,000,000 pieces before 1842, nor over 2,000,000 in each succeeding four-year period. The coins were to be struck at the rate of 6.3 to the mark, and were each to be equivalent to 2 thalers or 3½ gulden. Such sections of the treaty as regulated the relations of the Prussian and South German systems, as already described, were to apply only to specified states,[3] while such as established the universal coinage system were acceded to by all the states of the Zollverein. Thus, in reality, two treaties were signed, the one aiming at greater uniformity in certain of the existing systems, the other

[1] *Allgemeine Münzkonvention der zum Zoll- und Handels-vereine verbundenen Staaten vom 30 Juli 1838.*

[2] For these and other provisions see SOETBEER, *op. cit.* p. 3, and *Journal des Économistes, loc. cit.* pp. 337 *et seq.*

[3] This included Prussia, Bavaria, Saxony, Würtemberg, Baden, Hesse, Saxe-Weimar, Eisenach, Saxe-Meiningen, Frankfurt, Reuss, Reuss-Lobenstein, Reuss-Schleiz, Ebersdorf, Schwarzburg-Sondershausen, Schwarzburg-Rudolstadt, Gotha, Saxe Coburg, and Saxe Altenburg.

attempting to introduce a new and universal coinage which would, it was hoped, gradually supersede the older systems. Nevertheless, the best results could not be hoped for, so long as the old systems remained side by side with the new, since there was not the slightest harmony existing between them. Thus Austria adhered to the basis of 20 florins to the mark of fine silver, Hamburg and Lübeck retained the so-called Lübeck system,[1] and Bremen was the only state in Germany which possessed a gold standard—based on the louis d'or.[2]

Despite the incomplete character of the treaty provisions, it constituted a considerable advance over the state of things which had existed before its acceptance. "By this treaty," says Soetbeer,[3] "an extraordinary progress toward unification and

[1] The four main monetary systems of Germany may be described as follows:

1) The Austrian system, 20 florins to the mark of fine silver, comprising the following coins:

Denomination	Weight	Fineness
1 fl.	14.031 grams	13⅓ loths [1]
20 kreutzer	6.682 "	9⅓ "
10 "	3.898 "	7 "
5 "	1.701 "	5½ "

[1] 1 loth was the unit of fineness and was equal to $\frac{1}{16}$.

2) The South German system, 24½ gulden to the mark of fine silver, including:

Denomination	Weight	Fineness
1 florin	10.606 grams	14⅞ loths
½ "	5.303 "	14⅞ "
6 kreutzer	2.598 "	$5\frac{4}{16}$ "
3 "	1.299 "	$5\frac{4}{16}$ "
1 "	0.835 "	$2\frac{12}{16}$ "

3) The North German system, 14 thalers to the mark of fine silver, as follows:

Denomination	Weight	Fineness
1 thaler	22.272 grams	12 loths
5 silbergroschen	5.345 "	8⅓ "
1 "	2.192 "	$3\frac{12}{16}$ "
½ "	1.096 "	$3\frac{10}{16}$ "

4) The Hamburg system, 9 banco-reichsthalers to the mark of fine silver:

Denomination	Fineness
1 banco-reichsthaler	$14\frac{4}{16}$ loths
1 banco mark	$14\frac{4}{16}$ "

16 banco marks = 13 courant marks (12 loths fine), each kind of mark being divided into 16 schillings.

[2] See *Journal des Économistes, loc. cit.*

[3] *Loc. cit.*

solidification of the coinage system in Germany was made and a secure basis assured for it." In view of the intense jealousy existing between the German states, it was probably as good a makeshift as the times would allow. It was therefore able to hold its own during the whole period (twenty years) for which it had been concluded. Indeed, it became so popular that its scope was even widened somewhat. A supplementary agreement was signed in 1845. Mecklenburg was admitted to the league on the 14 thaler basis in 1848, and the free cities, Lübeck and Hamburg, were taken in, under the same system, during 1856. Attempts at further simplification were also made by Hanover and Saxe-Gotha.[1]

These, however, were considered minor accessions only. What was regarded as the most important advance was made in the admission of Austria. The adherence of Austria to the monetary treaty was a direct result of her joining the Zollverein. Her efforts to destroy or outshine the German tariff-union, although continued over a long period of years, had been so far from successful that she at last found herself obliged to seek for admission to the league or submit to grave commercial disadvantage. When once her pride had thus been humbled, it was quite natural that she should readily accede to proposals for entering the monetary union as well as the tariff league. In the Commerce and Customs Treaty of February 19, 1853, by which Austria entered the Zollverein, it was especially provided that "the contracting states shall also, in the course of the year 1853, enter into negotiations regarding a general coinage treaty."[2] Certain agreements relative to greater uniformity in the Austrian coinage system were also made by this treaty, and were to go into immediate effect. All these arrangements were the better received by Austria on account of the existence of her legal tender notes which had now been in circulation since 1848.

[1] SOETBEER, *op. cit.* pp. 4–5.

[2] See Article XIX. of the treaty. For text see "Handels und Zoll Vertrag zwischen Preussen und Oesterreich vom 19 Februar, 1853;" *Preussisches Handelsarchiv*, 1853, vol. i. pp. 250 *et seq.*

It was hoped that, by entering the monetary union, some concessions whereby the notes would be assured a more extended currency might be secured. Thus, when the determination to join the German states had once been taken, Austria was not at all loath to further the negotiations in every possible way. Accordingly, plenipotentiaries were accredited, and met in Vienna.[1] This convention really marks the opening of the struggle between gold and silver in Germany.

II.

In order to give the historical foundation for a statement of the contest which at this time began in Austria and the German states, it will now be necessary to go back and very briefly review the state of opinion regarding the standard of value—a point of which, so far, little mention has been made. Although it has already been stated that the Dresden convention of 1838 had proved of some benefit to the states included in it, it must not be supposed that no desires for further change had been expressed. At various times, dissatisfaction with the existing régime had been manifested, and among other things the introduction of the gold standard had been advocated. As early as 1838, Hoffmann had proposed a transition to a gold basis.[2] He and others continued to persevere in recommending the policy thus outlined,[3] and soon a considerable number of competent thinkers had taken up the same idea.[4] But in Germany the single silver standard, with gold as an auxiliary money, had always prevailed, and as commerce and trade were still on too small a scale to afford ground for an urgent demand for the introduction of a more valuable coinage, it was found impossible to dislodge the old silver standard from popular favor. In Austria the situation differed only in detail. Extensive use had,

[1] SOETBEER, *op. cit.*

[2] J. G. HOFFMANN, *Die Lehre vom Gelde als Anleitung zu gründlichen Urtheilen über das Geldwesen mit besonderer Beziehung auf den Preussischen Staat* (Berlin, 1838).

[3] *Die Zeichen der Zeit im Deutschen Münzwesen* (Berlin, 1841).

[4] See, *e. g.*, *Zeitschrift für die Gesammte Staatswissenschaft*, 1857, pp. 97 *et seq.*

however, been made of paper, for the national bank, which possessed the right of issuing notes, had now long been bankrupt, owing to the state's diverting to its own use the resources of the institution, after the Napoleonic wars.[1] There was little question concerning the standard during the earlier part of the century. The notes were, of course, redeemable in silver, but as that metal itself was not used in ordinary transactions to any thing like the same extent as elsewhere, and as much of the inconvenience from its bulkiness was consequently avoided, while, on the whole, the ratio of silver to gold was fairly steady, not much complaint was made.

When, in 1848, political events compelled the Austrian government by the suspension of the bank act, to confess the disorder existing in its own finances, as well as its practical misappropriation of the funds of the bank, this step, coinciding as it did with the beginning of the increase in production of gold, attracted public attention to the monetary question, and the feeling that resumption, when effected, should take place in gold soon became general.[2] Just at the time when this was coming to be thoroughly appreciated by the administration, the Commerce and Customs Treaty of 1853 was signed, and the monetary negotiations, in accordance with its provisions, were undertaken at Vienna[3] the following year.

Thus the question which, after 1850, obtruded itself in most of the European countries, was not absent in Germany. On the one side, Austria and a minority of the German states strongly favored a gold standard; on the other side, the larger part of the countries included in the Zollverein were anxious to adhere to the old silver basis. As there was no burden of depreciated metal to dispose of, bimetallism was little noticed and was favored by no one.[4]

[1] See WIESER, "Resumption of Specie Payments in Austria-Hungary," JOURNAL OF POLITICAL ECONOMY, June 1893, pp. 380 *et seq.*

[2] See *Ibid.*; also SOETBEER, *op. cit.*, p. 5.

[3] See p. 192 above.

[4] "That the system of the double standard — gold and silver together — is impracticable, lies in the nature of things."—G. F. KOLB, "Gold oder Silberwährung," *Zeitschrift für die gesammte Staatswissenschaft*, 1856, pp. 579 *et seq.*

The arguments urged on either side of the question are familiar. Gold was favored because of its superior usefulness for commercial purposes and its greater adaptability to the needs of large business transactions. Others preferred silver on the ground of its supposedly greater stability of value, and the fear that the great and increasing production of gold would lower the value of that metal furnished the strongest support to those who opposed more extended use of gold as money. Elaborate attempts to ascertain the probable effect of the increase in production of gold upon the relative value of silver and gold were made, and the difficulty of obtaining any reliable figures as well as of drawing any definite conclusions did much to increase the distrust of gold as a money metal.

The condition of public opinion in Germany will perhaps be better understood by the help of a brief comparison of the monetary situation with that contemporaneously existing in France. France had been the first to feel the far-reaching effects of the new gold, since it flowed more readily into her territory than into that of other European countries. This was due not only to her ratio of $15\frac{1}{2}:1$, which provided her with an alternating standard, but also to the fact that her coin was for the most part new and in good condition, so that the ratio of $15\frac{1}{2}:1$ between gold and silver was an actual as well as a legal fact. Thus an exchange of gold for silver was not only easy, since it was not forbidden by law, but at the market ratios then ruling it was sure to be profitable; since the fineness and weight of the coin were, in most cases, fully up to the legal standard. Hence the process of supplanting silver with gold was rapid.

In Germany, however, conditions were very different and the process must necessarily have been much slower. This was due (1) to the actual state of the coins, and (2) to the fact that silver was the sole legal standard. The circumstance that the silver coins differed so radically in weight and fineness, even when up to the legal provisions, as well as the circumstance that so large a proportion of them were abraded or debased, was

sufficient to render the process of exchanging them for gold quite slow, since they could not be indiscriminately accepted as of uniform weight and fineness, like the French. When compared with this impediment to the invasion of gold, the existence of the legal silver standard was of minor importance. It is unnecessary to dwell at length upon the futility of attempts to control monetary wants by law. In France, after 1850, creditors might still, by the terms of the law of 1803, have exacted payment in silver. That they did not do so was due in large measure to the desire generally felt for an extended use of gold as a more convenient medium of exchange. The fact that gold was enabled to supplant silver was due, not only to the profit derived from the exchange, but also to the willingness of the people to use gold as money. The same was true, in a more limited degree, in Germany. In many parts of the country gold was welcomed because of the greater ease with which exchanges could now be effected. The existence of the legal silver standard did not prove a bar to the admission of the new coin where it was wanted. Considerable amounts came in from France and other foreign countries, and although gold was not so eagerly welcomed as in France, owing to the smaller scale of commercial transactions in Germany, its entrance into the circulation was favored in many parts of the country.

When, therefore, the question of a new monetary union which should include Austria, was brought up, the advocates of a system of currency based on gold considered it an opportune moment for urging the transition from a silver to a gold standard. They accordingly argued for the introduction of the new system on the ground that the transition could be much more advantageously effected by the government than by private initiative, while on the comparative merits of gold and silver for use as money the argument ran as already outlined.[1] It was felt that the occasion of concluding a new monetary treaty would furnish the opportunity of settling the question for some years to

[1] See p. 194 above.

come, and the importance of the step led to much careful study of the situation.[1]

At the close of the last section it was explained how the Customs Treaty of February 19, 1853, had provided for the conclusion of a monetary agreement which should supplement the advantages expected from the customs union.[2] In accordance with this provision, a monetary convention assembled, in 1854, for the purpose of deciding upon the terms of the new treaty. The debate upon the gold and silver question was protracted and obstinate. On the one side, the trading cities and the higher commercial interests generally were firm in their support of gold as the more desirable basis for the new system, while the states where industrial development was less advanced adhered to the traditional medium. At this date, however, in many parts of Germany, industrial progress had been but small, and it naturally resulted that the reactionary party in the convention obtained decidedly the upper hand. Despite the fact that the supporters of the gold standard mustered sufficient strength to impede the action of their opponents, and so brought the convention to an end in February 1855 without apparent result,[3] it was evident that the silver partisans had won. A single utterance of the convention is quite sufficient to make this perfectly clear. Before breaking up, it expressed the following decisive opinion: "The liquidation of all obligations—both state and private—calling for a certain specified quantity of silver, in such a value as, in some one of the states, may be indicated by a certain specified quantity of gold, dependent on circumstances more or less arbitrarily fixed, must be considered a very questionable policy at a time when a further depreciation of gold is the prospect, or (what must be given equal weight by the governments) is quite generally feared. In any case the value of gold must

[1] For the opposing views on this subject see, *e. g.*, the painstaking work of G. F. KOLB, "Gold oder Silberwährung," *Zeitschrift für die gesammte Staatswissenschaft*, 1856, pp. 486–535, and SCHÄFFLE, "Die Deutsche Münzkonvention vom 24 Januar 1857 volkswirthschaftlich und politisch betrachtet. Erster Artikel," *Ibid.* 1857, pp. 92–141

[2] See p. 191 above.

[3] SOETBEER, *loc. cit.* p. 5.

yet pass through many alterations and crises before it also attains a point even approximating to stability and permanence."[1] Thus it was in nowise the ordinary fears of the present day, resting upon the supposed prospects of scarcity and consequent appreciation of gold, etc., which influenced German opinion in 1854–5. It was the directly opposite notion — that gold was likely to decline in value on account of a surplus production — and the wish to avoid a progressively depreciating standard, which led to the preference expressed for silver.

As the conference of 1855 had ended without immediate result, it was decided to renew the attempt to come to an agreement in the following year. It was expected that the conflict between the adherents of the two opposing monetary policies would then be continued. This expectation was not realized. During the interval which elapsed between the two conventions, public opinion, in response to the reiterated assertions regarding the probable fall in the value of gold, pronounced itself strongly for a monetary system based upon silver. Consequently, when the delegates again met in 1856, the question of a change to the gold standard was scarcely mentioned. This really amounted to Austria's yielding her prepossessions in favor of gold. As the difference of opinion on the gold and silver question had been the greatest obstacle to an understanding, there was now no real reason why a treaty should not be readily concluded. Consequently, on the 24th of January 1857, the famous Vienna convention[2] was signed by Austria and the German states.[3]

III.

As already explained, the advocates of the gold standard had been absolutely defeated in the preliminary debates and in the subsequent public discussion. This left three possible lines of action open to the prospective monetary league: (1) The bimetallic policy, (2) the adoption of a system based solely on

[1] SOETBEER, *loc. cit.* pp. 5–6.

[2] For the original text see *Preussisches Handelsarchiv*, 1857, p. 405 *et seq.* For a translation of this text see the Appendix.

[3] For a list of states included see the translation of the treaty in the Appendix, p. 270.

silver, and (3) the introduction of a system based upon silver, with gold as an auxiliary money. It has been remarked, earlier in the present paper, that bimetallism had at this time obtained no hold upon Germany.[1] Conditions had not fostered the growth of a feeling favorable to bimetallism. There was no accumulation of depreciated metal to be disposed of, and the idea of fixing a ratio higher than that existing in the market, for the purpose of scaling all obligations, was not familiar. Moreover, the fear of a depreciating standard of value was precisely the consideration which had led to the rejection of gold. Theoretically, bimetallism, although but little discussed, was generally considered untenable.

It was clear, too, that the plan of completely excluding gold and basing the monetary system solely on silver, without other kinds of money, would be impossible. The rapidly increasing use of gold as money, not only in France but throughout the world at large, could not be overlooked, and called for recognition. The use of an absolute single silver standard would throw Germany out of harmony with leading commercial nations. Thus, there was but one course left—that of adopting silver as the standard of value while at the same time permitting the auxiliary use of gold as a money of commerce. This was precisely the plan which had been followed, in effect, by France fifty-three years earlier in the monetary law of 1803. France, however, had been glad to receive the new gold in exchange for her silver soon after 1850. Germany now proposed to follow the same course as had been pursued by France in 1803. She intended, however, that the provisions of the law should be so explicit that it would be clearly understood that silver was to be the sole standard of value.

Accordingly, the Vienna Convention, by Article 2 of the main treaty,[2] provided that "the organization of the mints of the

[1] See p. 193 above.

[2] The treaty consisted of two principal sections, one the *Hauptvertrag*, or main treaty, containing the provisions of the agreement in a concise and unexpanded form, the other, the so-called *Separat-Artikel*, explaining them and providing for their application.

contracting states shall be based upon the retention of the single silver standard." The status of gold was established by Article 18. Two gold coins, the crown and the half-crown, which should weigh respectively $\frac{1}{60}$ and $\frac{1}{100}$ of the pound of fine gold, were provided for.

Austria was to be allowed to coin ducats, bearing the head of Maria Theresa, up to and including the year 1865, but with this exception no other gold pieces were to permitted. Secondly, the value of the gold coins was regulated as follows: "The value, in silver, of the gold coins of the union, for ordinary business transactions, shall be regulated solely by the relation of supply to demand; and therefore the quality of legal tender, belonging to the silver standard of the country, may not be attributed to them, and no one shall be legally bound to accept them in this character." The auxiliary character of the gold coins was still further made clear by Article 20, which released the states from all obligations to receive worn or abraded gold coin, and although such coins, when once received, might not again be paid out by the public treasuries, they were in no wise a standard coin, they need not be redeemed, and were receivable in payment of debt only at the option of the payee.

The vague provision that the value of gold coins should be regulated by the relation of supply to demand was of course of no practical use, since it furnished no clue whereby the rate at which they might be taken could be determined. It would be impossible for everyone, before accepting a gold coin in trade, to ascertain its exact market value as measured in silver, by resorting to the market quotations. In order, therefore, to provide for the public a definite and authoritative source of information concerning the value of the gold coins, Article 21 arranges a clumsy and complicated mechanism to serve that purpose. Each treasury was allowed individually to fix the rate at which it would receive gold coin, with the proviso that such rate should in no case exceed the average value of the coin as it had passed "in ordinary open-market transactions during the

six months preceding." The edicts proclaiming and fixing the value of the gold coin were to contain:

a. A statement of the average commercial value of gold, estimated in silver, on specified markets during the six months immediately preceding.

b. The rate of acceptance *previously* fixed.

c. The duration of the validity of the treaty.

d. The reservation of the power to alter or reduce the rate.

e. The explanation that the rate specified concerned only the public treasuries.

These provisions of course reduced the gold coins to the status of coined ingots merely. Thus, the Vienna treaty carried to its logical outcome the principle involved in the French law of 1803. Instead of once for all fixing the weights at which the auxiliary money (gold) should be coined in pieces denominated as certain multiples of the (silver) unit, the franc, and then leaving the public to determine for itself the discount or premium at which the gold pieces should exchange against the silver-standard money, it fixed an independent denomination for gold coin of specified weight, and regulated by proclamation the relation of these coins to the silver standard. The principle involved was the same in both instances, but in the case of Germany it was more clearly and logically elaborated.

Thus the problem of regulating the relations of gold and silver was summarily disposed of in a comparatively small space. The remainder of the treaty was an attempt to bring about a more uniform monetary system, and closely resembled the agreement of 1838. It was evident that so long as the weights used at the various mints were dissimilar, a mere superficial resemblance in denominations would be useless. The most fundamental reform demanded was therefore the introduction of a single universal unit of weight. This was attained by the adoption of the pound of 500 grams already in use at the custom houses of the Zollverein (Article 1). As this was the weight upon which the French system was based, it would now be much easier to estimate the value of the money of one country

in terms of that of the other. Although some were inclined to question the wisdom of any approach to similarity with the French system,[1] on account of the extended use of gold in France, it was more generally believed that the facilitation of international payments would overbalance any inconveniences arising from this similarity.[2]

On account of existing habits of thinking and accounting, it was found impossible to reduce the number of "systems" to less than three. A threefold division of the pound was therefore recognized.[3] It was to be divided into 30 thalers, or 45 (Austrian) florins, or 52½ (South German) florins. The first of these was the Prussian system.[4] This was adopted for seventeen states, possessing an aggregate population of 23,000,000 Austria and Liechtenstein, whose population might be estimated at 35,000,000, were placed on the 45 florin basis. The third mode of reckoning was adopted for South Germany, and was recognized in eleven states, whose aggregate population was between 9,000,000 and 10,000,000.[5]

Like the older treaty of 1838, the Vienna convention also provided for a money common to all the states of the union (*Vereinsmünze*).[6] There were to be a one-thaler piece, equivalent to 1⅔ (Austrian) florins and to 1¾ (South-German) florins, and a two-thaler piece which should contain $\frac{1}{10}$ of the pound of fine silver. Full legal-tender quality was also granted to the coins of the old union of 1838,[7] and any discrimination against coins struck under the former systems was especially forbidden.[8]

[1] See *e. g.* SCHÄFFLE, "Die Deutsche Münzkonvention vom 24. Januar 1857, Zweiter Artikel." *Zeitschrift für die gesammte Staatswissenschaft*, 1857, p. 266 *et seq.*

[2] This, of course, is not to say that the French and German systems were at all uniform.

[3] Articles 2 and 3.

[4] For an enumeration see translation of treaty in the Appendix, p. 270.

[5] There still remained outside the union Luxemburg, Holstein, both Mecklenburgs and the three Hanse towns.

[6] Article 8 of main treaty.

[7] Article 9 of main treaty.

[8] Article 4, *Ibid.*

Article 6 embodied a pledge by which the states bound themselves to allow no deterioration or debasement of the coin under pretense of an improvement. Thus the expedient of meeting fiscal needs by debasing the coin was definitely forbidden. The pledge not to lower the standard of the coin was rendered effective by Article 12.[1] The new coins were to be periodically tested, and in case they were found defective they were to be retired by the state which had emitted them. A standard weight and fineness were adopted, but the amount of the standard coinage was left to the will of individual states.[2] Subsidiary coins were also provided for and their amount was to be carefully restricted.[3]

A more important matter was disposed of near the close of the treaty,[4] in a section prohibiting the issue or circulation of irredeemable paper money. This was a direct blow at Austria. As has already been observed, Austria was still maintaining an irredeemable paper currency, and it seems probable that in entering the monetary union she had even hoped for a wider circulation for her paper than before. Compliance with Article 22 would necessitate Austria's retiring the notes of the Austrian national bank, but as no special arrangements were made for that purpose there seemed to be little prospect of immediate resumption in specie. Notwithstanding this, it was agreed that, "The exceptions to this rule, possibly existing for the time, are to be abolished by January 1, 1859." The duration of the league was fixed at twenty years.

Such, briefly, were the essential elements of the Vienna monetary treaty of 1857. As we have already noted, they differed little, save in a few points, from those involved in the treaty of 1838.[5]

[1] See also Sections VI. and VII. of the auxiliary treaty.

[2] The coins of the union (*Vereinsmünze*) of course were not included under this provision. They were to be coined in proportion to population by the several states — twenty-four thalers to each hundred souls before 1860, and sixteen to every hundred in each succeeding four-year period thereafter.

[3] Article 14.

[4] Article 22.

[5] Compare the criticisms of SCHÄFFLE, *loc. cit.*, *Zweiter Artikel*, p. 325 *et seq.*

IV.

The failure of the Vienna treaty to accomplish any results is well known. In general its lack of success may be attributed to two principal causes: (1) the reactionary course pursued by the treaty itself, and (2) the train of unfavorable political events which began soon after its adoption. Under the first caption may be included: (*a*) the general unwisdom displayed in running counter to the pronounced monetary tendencies of the time in favor of gold, and (*b*) the clumsy character of the mechanism for expressing the relation of gold to silver.[1] These two reasons for its failure are explained by Nasse,[2] who, referring to the provisions regarding gold, says: "It soon became apparent that a coinage constantly fluctuating in its value is absolutely unsuitable for the state treasuries and for the keeping of accounts." Concerning the adoption of the silver standard, he continues,[3] "The use of gold in the countries of the Latin Union was increasing. In connection with the use of the gold standard in Europe and in the generally flourishing English colonies, gold had become the metal in which those peoples who controlled the commerce of the world, and with whom Germany had the most important commercial relations, made their payments and kept their accounts. It was only to be expected that the legal discarding of the clumsy silver coin in all these states would follow upon the practical disuse of them."

The fact that the treaty of 1857 practically never went into effect[4] may thus be explained by the circumstances just alluded to. Coming, as it did, at a critical moment in the monetary history of the world, and pursuing a course which practically

[1] See p. 200, above.

[2] "Das Geld und Münzwesen," *Schönberg's Handbuch der Politischen Oekonomie*, vol. i. p. 360.

[3] *Ibid.*

[4] Speaking of one particular feature of the treaty, Ad. Wagner says: "Regular calculations of price, such as the coin convention anticipated, were . . . . not made, so that nothing in particular can be concluded from the price of gold in the interior of Germany.—"*Report of the United States Monetary Commission*, 1876–7, vol. i. p. 191.

precluded the use of gold, and was thus diametrically opposed to the course it should naturally have adopted, it must have proved practically abortive, in any event.[1] But as already observed, even had the union been based on a more accurate interpretation of monetary needs, it could scarcely have been entirely successful. The war which broke out between Italy and Austria in 1859, less than two years after the conclusion of the treaty, as well as other contemporaneous political events, must have materially hampered its operation.[2] It soon became apparent that the failure of the Vienna treaty was inevitable and that practically all that could be expected was a continuation of the state of affairs which had existed prior to 1857. This was not at all in accord with popular wishes. The old régime was rapidly becoming unbearable, and everywhere in Germany "a lively interest in the introduction of a uniform German coinage reform made itself noticeable . . . . during the years following the conclusion of the Vienna monetary treaty.[3]" It was in recognition of this feeling that the first German Commercial Congress [*Handelstag*], which met at Heidelberg in May 1861, passed resolutions in favor of a new attempt at monetary unification, on the thirty-thaler system with a decimal division. These resolutions were approved by many chambers of commerce, and tacitly by the people at large.

But just at this point, the fact that public opinion had taken a new turn began to make itself strongly felt. The French system had for some time been almost completely drained of silver, and the continued demand for this metal for export to the east

[1] Even in the matter of promoting uniformity, the treaty was far from being all that could have been desired. "The new system constituted no doubt a great progress over former conditions, but to show that there yet remained much to do, it is only necessary to cite the diversity of monetary types which still remained in circulation in the different states; in fact there were seventeen kinds of gold coin and about sixty-six varieties of silver coin. Little by little, the idea of a radical monetary reorganization made itself felt."—HAUPT, *Histoire Monétaire de Notre Temps*, p. 83.

[2] Compare COSTES, *Notes et Tableaux pour Servir à l'Étude de la Question Monétaire*, pp. 73, 74.

[3] SOETBEER, *op. cit.*, p. 6. See also COSTES, *Notes et Tableaux*, pp. 74, 75 *et seq.*

necessitated a resort to the German monetary system. During the years succeeding 1855, gold had been flowing into Germany in moderate amounts, and had come into much more general use than before. From 1857 to 1865, about 800,000,000 of thalers in silver were sent from Germany to Southampton and Marseilles.[1] Their place was taken by an equivalent amount of gold, and, owing to increased familiarity with gold, public opinion, which had somewhat earlier been so strongly opposed to its use, now underwent a reaction. The advantages arising from greater facility in effecting exchanges with neighboring countries and particularly with France began to be understood. A strong desire, not only for greater uniformity, but also for a monetary system based upon gold, manifested itself. At this juncture, the project for the Latin Union was brought up in France, and it was at the very time the first treaty of the Latin Union was being elaborated in Paris that the third German Commercial Congress (Frankfort, end of September, 1865) expressed the wish that the German states should strike gold coins identical in value with the popular French twenty-franc pieces.[2] If it be remembered that this was at a moment when it was generally believed that the Latin Union would be established on a gold basis, the possibility of Germany's joining with France and the Latin countries on a gold basis will be understood. The same fact is indicated also by many other circumstances of the time. That it was no chimera may be seen from the example of Austria. It will be recalled that Austria had all along favored a gold standard and had endeavored to introduce it at the time of the formation of the union of 1857. But, as we have seen, the union was of no practical effect, and as Austria was disappointed in the hope of resuming specie payments, she was affected by the treaty even less than the other states, since fresh coinage would be of no use during the régime of inconvertible paper. The feeling in favor of gold, already strong in Austria, was intensified by the growth of a similar feeling throughout Ger-

[1] SOETBEER, *loc. cit.* p. 7.

[2] *Ibid.* p. 7.

many. Soon after the formation of the Latin Union, Austria felt that the time had come to break with the moribund German union. Accordingly she withdrew from it and opened negotiations with the Latin states. She readily perceived the advantages flowing from the actual gold standard prevailing throughout these countries, but neither public opinion nor her ideas of sound monetary principles would allow her to accept the supposedly bimetallic basis of the Latin treaty—even though it was for the time apparently a dead letter. A treaty on the gold basis was concluded July 31, 1867, between Austria and the Latin Union.[1]

The action of Austria in insisting upon an adherence to the gold basis, and the unwillingness displayed by other countries to join with the Latin Union so long as it did not take some decisive step for excluding silver in case of the threatened fall in the value of that metal, made it plain that the Latin league was not destined to meet with the success which had been anticipated for it. Germany, which at first would have liked to follow the example of Austria in concluding a monetary treaty with the Latin countries, was now deterred not merely by aversion to the bimetallism of the Latin Union, but also by strained political relations with France. Soon after the agreement between Austria and the Latin Union had been signed, silver fell slightly in value and began to flow quite noticeably into France and the allied countries. This still further strengthened the determination of Germany not to become entangled with the French monetary system, more especially as the bad feeling between Germany and France was daily increasing. It was by this time clear that Germany would adopt the gold standard when the time came for her to inaugurate her new monetary reform. It was also evident that the Latin Union was not to be successful in attracting other countries, and this largely on account of its not adopting gold. This certainty, coupled with the increased coinage of silver, aroused a strong feeling in France for the demonetization of silver. It was seen that should Germany succeed in anticipating France in the adoption of a gold standard

[1] For text see *Enquête sur la Question Monétaire*, Paris, 1872, vol. ii. pp. 541–6.

she would speedily supplant her rival as a leader in monetary policy. This movement for the demonetization of silver led to the various governmental *enquêtes* and commissions which declared for the adoption of the gold standard by France, during the years from 1867 to 1870. But the bimetallist party was successful in preventing the passage of any immediate measures, and just at the moment when there seemed to be a prospect of taking some steps in favor of gold, the outbreak of the Franco-Prussian war necessitated the suspension of all action on the monetary question.

The war was no sooner fairly over than Germany, acting upon her determination already previously taken and the occasion presented to her by the payment of the French indemnity, seized the opportunity for inaugurating a gold standard. The situation of France was not such as seemed to warrant her in taking any immediate step.

Germany was thus able to anticipate France in the adoption of such a policy as would be likely to attract adherents among the minor European states. The long expected reform was thus effected, and not a moment too soon, as was almost immediately shown by the serious fall in the value of silver.

HENRY PARKER WILLIS.

UNIVERSITY OF CHICAGO.

SUBJECTIVE AND EXCHANGE VALUE. I.

THE nature of the causes which determine the exchange value of goods has been very thoroughly discussed during recent years, and the question has been brought near to final settlement. Its solution doubtless lies along the lines which have gradually been established in the drift of recent theoretical discussions. Apparently, however, the solution has not yet been reached. Notwithstanding the work accomplished by the Austrian school, both in the way of positive contribution to the theory, and in the way of definitely indicating the nature of the problem, this fact seems to be unmistakable. Few persons appear to be prepared to accept the marginal utility theory without some more or less definite and material reservation. There is a distinct impression that the theory does not take duly into consideration all the necessary factors in the problem, and in particular that the explanation which it offers of the influence and meaning of cost of production is somehow inadequate. The phenomena of demand appear at first sight very easily to admit of statement in the psychological terminology which the Austrian economists employ. The demand for goods is apparently well expressed as subjective valuation of them in terms of their marginal utility. Such language is more precise and convenient than the expressions which were in use in the earlier history of the science. But it is felt that cost of production is a fact of another kind, that it is objective and not subjective, and that as such it cannot be dissolved away by any process of reasoning, however skillful.

Accordingly it is sometimes said that the classical theory of value assumed the fact of demand without adequately examining into its psychological character, and devoted its attention, perhaps too exclusively, to cost of production — to the conditions of supply. The Austrian school, however, has done the work which the classical economists neglected to do. The com-

plete theory of value should therefore ignore the exclusive claim of either school to the advantage in the controversy, and appropriate the truth which each has discovered. This view finds expression in the well-known words of Professor Marshall: "The 'cost of production principle' and the 'final utility' principle are undoubtedly component parts of the one all-ruling law of supply and demand; each may be compared to one blade of a pair of scissors. When one blade is held still and the cutting is effected by moving the other we may say with careless brevity that the cutting is done by the second; but the statement is not one to be made formally and defended deliberately." "We must not indeed forget that at the time at which he [Jevons] wrote, the demand side of the theory of value had been much neglected; and that he did excellent service by calling attention to it and developing it.[1]"

The positive impressions upon which this eclectic view of the relations of the rival theories is founded, appear upon the whole to be valid. The neglect of the element of demand by the classical economists was undoubtedly a serious omission. It is also true, in the opinion of the writer, that the Austrian economists are not successful in their apparent endeavor to explain away the influence of cost of production upon value. Consequently an adequate and definitive theory of value must allow for and fully recognize the importance of the demand for goods as expressed in terms of their marginal utility, as well as the influence of the supply of them, as determined in part by their cost of production. To this extent Professor Marshall's conciliatory view may freely be accepted. In so far, however, as this solution of the controversy is not upon the whole to the advantage of the classical position, it is an eclectic compromise between the two opposing theories rather than a substantial reconciliation of them. In substance it is hardly more than a mechanical and external binding together of the conceptions of utility and cost, and is not the result of a real effort to reduce them to an organic unity as moments in a higher and an ultimate category.

[1] *Principles of Economics* (Third Edition), vol. i. pp. 564–565.

There is doubtless a good reason for the absence of any such procedure, and, upon consideration, the reason becomes quite evident. It is the presupposition, tacitly implied in the statement just quoted, that subjective valuation according to marginal utility is, as a matter of course, the operative principle on the side of demand alone, and that over against it, on the side of supply, stands a fact of different character—cost of production.

The Austrian school protests against such one-sided limitation of the scope of subjective value. The whole process of the determination of exchange value is, as they maintain, from beginning to end a psychological one, and the elements in this process are the subjective valuations of both the buyers and the sellers, in terms of marginal utility. "A dualistic explanation of the phenomena of value and price by means of the two antithetical principles of utility and cost is neither necessary nor satisfactory.[1]" The enunciation of this principle and the consistency with which the Austrian economists have held to the point of view which it indicates, are not the least among their many valuable contributions to the progress of economic science. It is indeed self-evident, upon reflection, that the phenomenon of exchange value must have a single principle of explanation, and further that this must be the principle of subjective value both on the side of the buyers and on the side of the sellers. But if we examine the theory which the Austrian school has constructed in the light of this general principle, it becomes evident that, in the interest of the undisputed validity of the principle of subjective value, cost of production has been eliminated and explained away. And thus the Austrian theory appears to share in the presupposition concerning utility and cost which was seen to underlie the eclectic position of Professor Marshall. Utility and cost are still antithetical principles. The Austrian economists, it is true, endeavor to solve this dualism in the theory of value, but they are able to effect the solution only by rejecting one of the members of the antithesis.

[1] BÖHM-BAWERK: "Grundzüge der Theorie des wirtschaftlichen Güterwerts," *Conrad's Jahrbücher*, vol. xlvii., p. 540.

It is therefore the purpose of this paper more definitely to call attention to the importance for economic theory of a study of the process of subjective value. The phenomenon of exchange value can contain no element which cannot be discovered upon examination as a characteristic element within this fundamental process. To this end it is proposed to examine the Austrian theory of exchange value. If it may be established that the position of the theory with respect to the significance and influence of cost of production is an untenable one, it will follow that the conception of subjective value which logically determines this position must be faulty in some particular. The conclusion then will be that a thorough examination of this primary phenomenon is a necessary condition to the further progress of the general theory of value. It is believed that a critical study of the treatment of cost of production by the classical economists, if possible in this connection, would still further emphasize the necessity for such investigation. The theory of subjective value as a psychological fact is the really important point at issue in the economic controversy. It is probable that an analysis of this phenomenon will disclose the presence of the element of cost as one of its constituent elements, and thus afford a basis for a theory of exchange value which shall be neither dualistic nor, on the other hand, at variance with the facts of economic experience.

I.

No detailed account of the Austrian theory of exchange value is necessary in this connection. The salient features of the theory from the present point of view must, however, be briefly recalled, with the assistance of some of the more significant passages from those writings of the school best known to English readers.

The theory logically begins with the proposition that when an exchange takes place between two persons there must be, upon either side, two acts of valuation. Under the conditions of simple barter each person must, in the first instance, place an estimate upon the good which he offers in exchange, and then upon the good offered for sale—an estimate founded in each case upon the

relation obtaining at the time between the person's want for the commodity and the provision for this want already in his possession. In the modern market, however, the commodity universally offered in exchange for goods is money, and accordingly the matter needs restatement. We now have upon the side of the buyer an estimate of the marginal utility for him of the commodity which he desires to purchase, expressed in terms of money—a comparison based upon a consideration of the amount of other commodities which this amount of money will buy. On the part of the seller we have, similarly, an estimate of the marginal utility of his wares for himself, expressed in terms of general purchasing power. If the number of prospective buyers and sellers of each commodity in the market be increased, the theoretical situation thus constructed will resemble the modern market, and a price will finally be adjusted for each commodity by a competitive process, the details of which do not just now concern us. The important fact is that subjective valuation according to marginal utility plays as important a part, logically, on the side of supply as on the side of demand. "The market price is determined within a latitude of which the upper limit is constituted by the valuation of the last buyer who actually exchanges (the last buyer) and that of the most capable seller excluded (the first excluded seller), and the lower limit by the valuation of the least capable seller who actually effects a sale (the last seller) and that of the most capable buyer excluded (the first excluded buyer.)"[1] This conclusion is significant. The process of valuation, both on the side of the buyers and on the side of the sellers, is represented as being the same in kind. It is a valuation of goods according to their marginal utility, and it is this single principle of value which the Austrian theory endeavors to substitute for any "dualistic explanation of the phenomena of value and price."

This, then, is the one ultimate principle of value, and it should be observed that, in accordance with the fundamental

[1] BÖHM-BAWERK, *Positive Theory of Capital* (English Translation), p. 208.—See in general on this subject book iv.

contention of the Austrian school, it is a psychological principle. At this point, however, a question arises: Can it be said that the producer or seller of goods, who possesses them in great abundance and who certainly can make no personal use of any considerable portion of them, really values them in the same sense in which the prospective consumer does? The consumer desires to use the goods for his own personal gratification; is the valuation of the goods by the seller a valuation of the same kind? The Austrian theory answers this question in the negative. Thus, says one exposition,[1] an important modification should be made in the ideal scheme which has just been described, before it will correctly represent the actual conditions which obtain in the market. "Sales are made by men who are producers and merchants by profession and who hold an amount of their commodities entirely beyond any needs of their own. Consequently for them the subjective use-value of their own wares is for the most part very nearly nil and the figure which they put on their valuation (in which the subjective use-value is the standard element) also sinks almost to zero. Finally comes the result that in such sales . . . price is actually limited and determined by the valuations of the buyers alone."[2] According to this exposition of the manner in which exchange value is determined, the sellers of commodities play no active part in the process. "When goods are once produced and the owner can do nothing with them for his own personal wants, they must, all the same, seek a market. To find this market the seller must, in the usual way, put his goods at a price low enough to find buyers for the whole stock he offers for sale."[3] He must submit absolutely to the demand of the buyers and accommodate cost of production, if possible, to it.

Another statement of the theory offers a slightly different exposition of this step in the process.[4] Unlike the one just out-

[1] *Positive Theory of Capital.*

[2] *Ibid.* p. 220; Also *Conrad's Jahrbücher*, vol. xlvii. p. 521.

[3] *Ibid.* pp. 220, 221.

lined it appears at first to retain subjective exchange value on the part of the seller, as a factor in the process throughout. "The proximate basis of valuation [of his goods, by the seller] is the expected money proceeds, or the exchange value of that money; the ultimate basis is that use-value which is anticipated from the exchange value of the money proceeds." Again, "the exchange value which we have here explained is that value which is ascribed to goods either by reason of the owner's intention to sell them or because of the possibility of replacing them by purchase."[1] Subjective exchange value in the last resort is the value of the anticipated selling price of the goods offered for sale, measured always in terms of articles of personal consumption which it is expected to purchase. This is evidently a recognition of the fact that sellers do unquestionably value their goods, and, in so far, this exposition has decidedly the advantage of the other.[2] It is, however, able to make no use of its advantage. It is presupposed by this form of the theory, just as by the first, that "the sellers are forced to get rid of the entire quantity of goods which they have brought to market . . . . the goods having been produced for sale and being of no personal use to the sellers."[3] In the determination of price "what decides is on the one side the amount of stock . . . . and on the other side the want with its varying gradations."[4] Thus the apparent suggestion that seller's valuation may be a really influential factor in the market is in fact only an apparent one. Any such admis-

[1] *Natural Value*, pp. 48, 49.

[2] Professor Böhm-Bawerk explains in the "Grundzüge" (*loc. cit.* p. 516) his neglect of the prospective exchange value of goods offered for sale as a possible basis for their normally permanent valuation by the seller. In brief the reason for this neglect is the very fact that the exchange value *is* prospective. As such it can only be provisional and hypothetical — anticipatory of a possible condition of the market. "In the face of the actual situation our mere conjecture naturally loses all its validity, the valuation based upon it collapses, and we have no longer any thought of ordering our practical dealings in accordance with it" (p. 517). If Wieser's view has the merit of recognizing, even though imperfectly, a very important fact, Böhm-Bawerk's has, at least, the merit of being more exactly consistent with his fundamental presuppositions.

[3] *Natural Value*, p. 41.

[4] *Ibid.* p. 43.

sion, definitely made and consistently adhered to, would raise at once the question as to why this valuation may not take account of costs. The fundamental assumption of the theory could, however, not permit the concession of this critical point. Cost of production can, according to the theory, only be understood as determined by the exchangeable value of the goods produced, and in no sense as itself a factor in this determination.

The difference between the two theories in this respect does not, therefore, appear to be of any real importance. Though it is said that the seller does place a valuation upon his goods, it is a subjective exchange valuation, and in any case it is of no influence in the determination of price. It should then be explicitly noticed that this subjective exchange value of the seller is not represented as depending in any sense upon the already expended cost of the goods, as cost. This valuation regards possible future satisfactions, and not the amount of cost already sacrificed The amount of the future satisfactions expected in exchange for the goods may perhaps be measured by the amount which was expended upon them in costs, but the valuation is a valuation of future satisfactions and not of costs as satisfactions once for all abstained from. It is therefore the import of both statements of the Austrian theory that as a matter of essential principle the effort expended upon goods has no influence upon their value. There is doubtless some meaning in the ancient law of costs; there are indeed certain very important phenomena to which it exactly applies; but it is held that closer examination demonstrates in every case that the validity of the law is not ultimate. The Austrian theory then, holds (1) that the seller's valuation is a valuation wholly in terms of the consumable goods which may be ultimately obtained in return for the goods which he offers for sale, and (2) that this valuation can in the nature of the case not be of the slightest consequence in the actual determination of exchange value. It is therefore perfectly clear that no such idea as cost of production can play an important part in the theory. Cost of production is determined according to the theory, in the long run, by the value of the product.

The classical theory, that the causal influence runs in the opposite direction, is just the reverse of the truth. Its insufficiency is shown at once when it is provisionally accepted, and the further question is then asked as to what gives value to the costs. The immediate costs of production must surely possess some value, else they could impart none to the finished product, and the question as to the source of their value is therefore an entirely pertinent one. Upon the classical theory, it is said, there can be but one answer to the question. The value of the costs is determined in turn by their costs of production, and the value of these costs being determined in the same manner, the infinite regress is well under way. Accordingly the classical theory must, we are told, finally rest its case upon the principle that labor, the ultimate cost of all produced commodities, is therefore the source of all value. But this principle, in its consistent simplicity, can never be established, for by what conceivable process can labor as such impart value to a commodity upon which it has been expended? How can the mere expenditure of irksome effort — which indeed is never undertaken except for the sake of some commodity or other result antecedently judged to be useful — ever itself impart any utility to a commodity? How can effort ever be a source of value, if value be understood, as it must be understood, as the capacity of a good to satisfy a human want? The truth is that only useful labor is valuable; labor is valueless which is spent in the making of objects which are found upon completion to satisfy no human want. The conclusion is inevitable, it is held, that utility, and not labor or cost of production, is the central conception in the theory of value.[1]

Whence, then, has arisen the impression that, in the modern economic world, cost of production is a fact of such fundamental importance as to be in truth the sole regulator of exchangeable value? How can this be supposed in the face of the fact that cost as the source of value is logically so inconceivable? The

[1] *Natural Value*, Editor's Preface, p. 21; *Positive Theory of Capital*, p. 179, — See *Natural Value*, book v. chap. vii. for a refutation of the idea of cost of production of labor.

apparent validity of the law of cost of production, answers the theory, is the result of complications introduced into the logical simplicity of the operation of the marginal utility principle by the modern facilities of exchange. Under ideally simple conditions the value of the finished product determines the value of the aggregate of its costs of production, this aggregate in turn confers the same value upon the next earlier group, and so on to the end of the production series. According to the implication of this assumption of simplicity, the production goods used at each step in the long process have no other possible use than the one in which they are actually consumed, and the result is evident that we have the substantial identity, at every stage, of the value of the particular good under consideration and its cost of production. But the conditions of the modern economic world are not thus ideally simple. Instead of a single use, practically all production goods, such as raw wool or steel billets, have very many uses, very many more kinds of uses than the finished products into which they may enter. This important fact suggests at once a twofold question. The finished products made from a single production good — the cognate products as they may be called — are of different kinds and satisfy different kinds of wants. They therefore possess different marginal utilities and presumably therefore have different values. It may even appear in consequence that the cost good or raw material must be differently valued in the case of each particular employment of it. But this is only too evidently impossible. The twofold question then is, (1) which particular kind of finished product is to determine the value of the raw material in question and, (2) what relation is this value to bear, after it has been determined by the value of one of the cognate products, to the values of all the rest?

The key to the solution of this question, it is answered, is the fact of perfect freedom of exchange in the modern market. If we could imagine the industrial world to be divided into a number of independent groups without mutual intercourse, each one devoted to a particular branch of iron manufacture, and each

one dependent, for the prosecution of this branch of industry, upon its own particular mines, then the value of raw iron would undoubtedly be determined in each case by the value of the finished product, and would probably vary accordingly from group to group. But the economic affairs of particular countries and even of the world are not thus disjointed. Each industrial group, to continue the illustration, in fact purchases its iron in what is to all intents and purposes the same world market. Let it be supposed then that in a special branch of iron manufacture, which may be assumed to be unusually productive, a shortage of raw material occurs. It may further be supposed that the supply of iron cannot be increased at once. If it be permissible to use the expression, society must effect a redistribution of the existing iron supply and, just as an individual would do, it will so redistribute it as to suffer the least possible loss of utility. An individual who proposes to use a limited supply of lumber in the construction of a house surrounded by an ornamental fence will sacrifice the fence and not the roof, should a portion of his lumber be unexpectedly lost, and estimate accordingly the value of the missing quantity. In a word, the value of a production good must always be determined by the value of the least useful of the cognate products into which it enters.[1]

With the value of the cost good thus determined by the value of its least useful product, the value of the other cognate products cannot long remain out of correspondence with it. If the raw material is easily obtainable in the market, the competition of undertakers may be relied upon to bring about a general equalization of values upon this common foundation. The process, from the point of view of society at large, is in no essential particular different from that of the individual who, having many cognate articles of differing marginal utilities, nevertheless values them all according to the common cost of replacing them. No higher price will be paid for the most necessary iron products, in spite of their high degree of utility, than is paid, relatively

[1] *Positive Theory of Capital*, book iii. chaps. v. and vii. for a fuller statement; *Natural Value*, book v. chap. iv.

speaking, for the least important ones. The "disutility" resulting from the loss of one of the more useful commodities will at once be made good from the existing iron supply, and if this be supposed to be limited, the ultimate result of the loss will be the production and hence the enjoyment of one or more commodities less of the least useful kind. The question which was raised concerning the relation which obtains between the value of a given raw material and the values of the different products manufactured from it may therefore now be answered. The values are all substantially identical. The value of the least useful product determines the value of the cost good and this in turn determines the value of all the others. In the last resort of course the values of the cognate products accommodate themselves to the value of the least useful product, the marginal product of the cost good. It is however perfectly correct, though it is perhaps misleading, to say, for the sake of convenience, that the cognate products are in the first instance valued according to the value of the production good from which they come.[1] "Here then," the theory assures us, "we have the whole truth about the celebrated law of costs."[2] This law, in so far as it is valid, is nothing more than a statement concerning the value of cognate products, such as is given in an abridged form above, and is not, as is so often supposed, an ultimate law of value.

It is necessary, even at the risk of tediousness, to follow the discussion of this portion of the subject somewhat further. We

[1] *Positive Theory of Capital*, p. 187. For example, "If we are considering what a good B or C (generally speaking, a good of higher immediate marginal utility) is worth for us we must say first of all, It is worth exactly as much as the means of production from which we could replace it at any moment. Then if we examine further how much the means of production themselves are worth we come to the marginal utility of the marginal product A." (*Ibid.*, p. 188.) Again "a cupboard and a table are in themselves different goods; reduced to their productive factors they are of the same nature, belong to the same class of supply and receive a corresponding expression of value. The law of costs is . . . used . . . where the connection of goods . . . can only be recognized after reduction to the productive elements of their manufacture."—(*Natural Value*, p. 184.)

[2] *Positive Theory of Capital*, book iii. chap. x. p. 188.

have just seen how, according to the Austrian theory, the alertness of the undertakers brings the values of all cognate products into correspondence with the value of the cost good. Is not this after all, it may be asked, a regulation of value by cost of production? The theory appears to answer that it is, but the admission is qualified. It is indeed true that from above and from below the prices of cognate products come together at prices corresponding to the value of the cost good, but it should never be forgotten that the value of the cost good is itself determined by the value of its marginal product. All the products, and also the cost good itself, thus conform to the law of marginal utility, and together receive the value of the least remunerative employment. But how is it, it may next be asked, with the case of a fall in the price of the cost good, due not to a fall in the value of its marginal product but to an extension of its production? Prices will certainly fall over the whole range of cognate products and without any change in their marginal utility. Is not this a plain case against the theory we are stating? In order to answer the question, we are told, we must press the analysis a little further backward. We must ask why the production of the cost good is extended, and this question may be answered almost as soon as it is asked. The reason for the extension is the "suction power" which all human wants exercise upon the original productive powers of nature. Wants are ever ready to absorb any possible supply of products which may be offered. Thus it may be assumed by way of illustration that the cost of producing commodities of a certain class has been passing through a continuous series of reductions, and that at each step in the process the price has accordingly regularly declined, and a wider and wider range of wants has progressively been satisfied. If, however, at the limit of two shillings the entire stock of the required original powers is taken, two things are definitely decided; all wants which cannot pay two shillings must go unsatisfied, and no want will be required to pay more than this marginal sum—the valuation of the last buyer who is satisfied. Wants however are awaiting satisfaction below the level of two shillings and the

tendency is always towards their gratification as soon as it becomes in any way a possibility. Improved processes of production or discoveries of fresh resources in the depths of the earth thus find ready employment; raw materials under these fortunate circumstances seek less renumerative employments than before, their value therefore falls and, last of all, the value of the whole group of cognate products in any particular case finds a new adjustment at the lower level. And in all this, we are reminded in conclusion, the values of all commodities are subject at all times to the influence of the law of marginal utility. The facts of everyday life which at first sight appear to contradict the law, turn out upon patient examination to be the very strongest proofs of its validity.[1]

In concluding this sketch of the theory attention should be called once more to the all-important influence of the value of the marginal product. It is this which gives value to the cost good in question, and it is towards this that the values of all other commodities of the same order inevitably gravitate. Whatever forces operate in the definition of this fundamental value are consequently to be accounted the universal determinants. Upon this central point the criticism of the theory must in the first instance be directed.

Before proceeding to the criticism of the Austrian theory of value, we should first determine the extent to which the discussion of cost which has just been outlined, really bears upon it. It may be said at once that it is impossible to see that it has any bearing whatever upon the only point of fundamental importance in the theory. It will be remembered in the first place that in the determination of exchange value as originally described,[2] the finally decisive factors were the valuations placed upon the commodity in question by the competing buyers. It will also be remembered that the sellers' valuations of their goods were held, to be in no sense determined by their cost, but

[1] *Positive Theory of Capital*, book iv. chap. vii., especially pp. 227, 228 and 231, 232; *Natural Value*, book v. chap. iii.

[2] *Positive Theory of Capital*, book iv. chaps. i–vi.

by a calculation of the enjoyments for which their price was expected to exchange. Lastly, it was seen that the sellers must sell their goods at some price or other, and that, therefore, they must ultimately yield to the inevitable and final decree of the buyers. In this typical process, cost of production evidently plays no part. Now, this is the precise point at issue, and it is not further illuminated by the long discussion of the law of costs which follows.[1] This discussion, as we have just had occasion to observe, shows that in the market valuation of a group of cognate products, the value of the marginal product, through the mediation of the resultant value of the cost good, is the determining fact. Upon the really important point, however, the value of the marginal product, nothing more satisfactory is offered to the reader than iteration of the conclusion which is doubtless believed already to have been established. This chapter on the Law of Costs, in so far as it is designed in any way to strengthen the preceding argument, can scarcely be considered successful. It is apparently intended to dispel, by way of supererogation, the illusion of the ultimate importance of the law of costs, after the substantial work of destructive argument has been completed. But, after all, the belief may remain that the value of the marginal product, to say nothing of the values of the others, is in part determined by its cost of production, and in this event, the Austrian theory can only resort to an implicit appeal to the outcome of the original discussion. It appeared to be necessary to enter upon an examination of this chapter in order that full justice might be done the theory, although it is difficult to appreciate its polemical importance. It may indeed transpire that instead of being a source of strength to the law of value which it is believed so strikingly to illustrate,[2] it contains a number of admissions which are dangerous, if not fatal to it.

The criticism of the Austrian theory of value upon which we are now about to enter, is designed primarily to do no more than exhibit the connection which obtains between the theory and

[1] *Ibid.*, chap. vii.

[2] See for example, *Natural Value*, p. 178.

the particular view of subjective value, to which reference has already been made. It must not be understood that it is offered either as a thoroughgoing criticism of the theory in all its details and implications, or as a basis for a general estimate of the value and significance of the theory as a body of economic thought. It is intended only to call attention as definitely and directly as may be, to the fundamental point in the theory of value, which, it is believed, must receive the most careful examination before any further progress can be made toward a satisfactory termination of the controversy. In order to bring the central question of subjective value distinctly into view, the discussion will proceed upon the following plan: It will first be argued that the Austrian doctrine that sellers' valuation can, in the nature of things, exercise no influence upon market value, is unsound, because it rests immediately upon two unjustifiable assumptions. In this branch of examination it is immaterial for our purpose what the nature of this valuation may be, whether according to costs or otherwise. The question in the first instance is wholly one of mechanics. We may simply assume the existence of the force, and on this basis it will be sought to show that it is really present as an influence in the processes of the market. The second step will be to show that sellers' valuation is not based upon a calculation of the future consumption goods for which the wares are expected ultimately to exchange. The third step will be to show that this inadequate view of sellers' valuation is a direct consequence of the theory of subjective value which the Austrian school appears to hold.

With respect to this first point, the Austrian theory, to repeat the statement already made, holds that the valuation of the seller can exercise no influence upon the determination of market price.[1] There appear to be two chief reasons for this fact. The first is the one already mentioned above—explicitly stated as the only one by the theory—namely, that the seller must effect an

[1] It is unnecessary from the present point of view to preserve the distinction between market value and market price, and for the sake of convenience the terms are therefore used interchangeably.

exchange, and must therefore close the bargain with the buyers upon the most favorable terms which they will allow. The second reason does not lie so plainly on the surface, but it is none the less evident on examination and none the less vital to the proposition in hand. It is, in brief, that the valuation schedules of the buyers, during their sojourn in the market, are inflexible.[1] It must be admitted that, if these assumptions be valid representations of fact, the buyers have decidedly the command of the situation. But nothing appears more plain than that neither the one assumption nor the other can seriously be defended as actually true. If the sellers of goods must sell them, and have determined so to do, the valuation which they place upon their goods cannot be a matter of any importance in the fixing of their price. To say that they have withdrawn their valuation, literally means that, for them, as Professor Böhm-Bawerk says, the goods possess no effective value. The case is strengthened by the other assumption. The buyers are represented as entering the market, each one desiring only a single commodity, or at best a fixed schedule of commodities in which the several marginal utilities are expressed in terms of money. These subjective exchange values in each case constitute a superior limit above which the buyers will on no condition purchase. Thus even should the sellers conceivably persist in valuing their goods, upon one or another basis of estimation, there would be no possibility of an actual exchange at any price not satisfactory to the last included buyer. But since the producers have perforce determined to sell, there can be no question about the result. The buyers compete according to their respective capabilities, that is according to the subjective exchange values which each one for himself has fixed upon, and it must inevitably result that "the market price is determined by the valuation of the last buyer.[2]"

[1] *Positive Theory of Capital*, p. 203. *Natural Value*, p. 80

[2] *Positive Theory of Capital*, p. 221. "The law of price may quite correctly be still more simply stated as follows: Price is determined by the money equivalent of the current marginal buyer or class of buyers."—*Natural Value*, p. 43.

There can be no more effective answer to these assumptions, the one explicit, the other implicit, than a reference in either case to fact. In the first place, it does not appear that the sellers in the market are definitively obliged to part with theirgoods, in the sense in which the theory under consideration logically requires this to hold true. An examination of the particular passages in which the converse of this statement occurs, discloses the curious and significant fact that no indication is afforded, or even hinted at in them, as to the time within which the sellers must consummate the exchange which is represented as so necessary.[1] And yet it is very clear that such a statement, without some specification as to time is not especially instructive. If the sale need not take place at any particular time, the result is in general the same at any particular point of time, as if it need not take place at all. And if the sale need not be made, the only reason for its occurrence at any particular time must be the fact that an adjustment of a price has been effected in which both buyers and sellers have played a part, and with which they are satisfied. It thus appears that the Austrian theory at this point falls short of such a definite specification as is essential to its validity.

Such a definite specification can not be incorporated into the theory without violating the facts of the economic world. In the case of a few commodities, for example fresh fruits and the more perishable vegetables, the period of time during which they may be withheld from unremunerative purchasers is somewhat narrowly limited. With the imperishable staple commodities, wheat, corn, iron and steel, lumber and coal, the period is not absolutely without limit, but it is practically indefinite. And in no case, probably, is the definite time at which a sale must be made in order to escape total loss unalterably and rigidly determined in advance upon the entrance of the commodity into the market. Indeed, a temporary total loss is sometimes preferred by dealers to an extreme depression of the market, and the goods in question are consequently actually destroyed. It is

[1] *Positive Theory of Capital*, pp. 220, 221. *Natural Value*, p. 41.

not, however, the present contention that the manufacturer or merchant can, normally, refuse to part with his goods, even though prices fall to a ruinous level.[1] Enforced sales at a considerable loss are sufficiently familiar phenomena, and indeed constitute the manifestation after the fact of so-called industrial overproduction, that is to say, overproduction reckoned from the point of view of a normal rate of return upon capital. It is, however, contended that there is a substantial margin of time, after the entrance of every commodity into the market during which the valuation of the seller may be, and is, in force as an active influence.

It is, indeed, further true that the buyers are not, as the theory seems to imply, wholly unconstrained with regard to the time within which they may effect their purchases. By this it is not intended to refer to the occasional necessity, on the part of the individual buyers, of outstripping one another in competition for a certain supply of scarce goods, but the necessity of concluding the purchase without indefinite delay, which acts upon the whole class of buyers as such. With respect to many commodities it is necessary for the intending consumers to purchase at once and upon the best terms which may be obtainable. It is even roughly true that this necessity is most pressing in the case of a large number of the most important commodities exchanged in the market, and that these are the very commodities which the merchant or producer is, normally, least anxious immediately to dispose of. The staple food products, clothing, fuel and many luxuries which have become articles of habitual consumption are examples directly in point,—in general, all articles which must be regularly consumed in somewhat definite quantities.[2] It is only in the case of such perishable articles as have been mentioned, that the desirability of immediate exchange on the one side coincides with the absence of imperative need for immediate purchase on the

[1] The considerations which tend in every case to prevent an absolutely unlimited period of waiting, are too obvious to need detailed enumeration.

[2] For example those which satisfy the more urgent "kind of wants."—*Positive Theory of Capital*, p. 144.

other. These facts are certainly not offered in evidence to show that the sellers are in absolute control of the market, nor are they intended to show that the advantage in this respect is not rather, on the whole, upon the side of the buyers. The facts cited do indicate, however, that there is abundant reason, in the nature of the actual position of the sellers in the market for all commodities, for a sweeping qualification of the theoretical assumption under consideration. Yet the assumption without qualification of this kind is necessary to the support of the proposition that seller's valuation is of no effect in price determination.

The second assumption upon which the discussion of exchange value proceeds is that of an inflexible superior limit to the demand of the particular buyer for the commodity he wishes to purchase. The buyers in the typical case which Böhm-Bawerk describes,[1] desire only one commodity, and each individual buyer has his estimate of its value to him duly and definitely expressed beforehand in terms of money. The highest price, for example, which the most capable buyer is willing to pay for the article is fixed at £30. The estimate of the next is £28, of the next £26 and so on down to the tenth buyer who has fixed his limit at £15. Throughout the elaborate and ingenious explanation which follows, of the mechanism of price adjustment, these valuations never change, and the price finally settles in the neighborhood of £21 the original valuation of the sixth buyer.

Now the most obvious objection to this exposition is that the buyers do not normally enter the market with any such rigid valuation of the commodities which they desire. The normal attitude is an attitude of inquiry, with perhaps several courses of action held in reserve from which a proper choice may be made when more definite information has been obtained. The matter may be more clearly understood by considering briefly the implications involved in the simple act of valuation, and we may make a beginning in this direction by considering the apparently more complex matter of valuation in terms of money. Money should be

[1] *Positive Theory of Capital*, p. 203.

understood to signify to its possessor, from the present point of view, so much command over goods in general, and the immediate and definite meaning of a certain sum of money to any one is accordingly determined by the lines of habitual expenditure which have become established through the individual's occupation and tastes. It thus appears that the expression of the marginal utility of an article in terms of money signifies an estimate of the relative importance of the article to the person concerned, as compared with other goods. It may be evident from this that the mere fact of the intervention of money in the process of valuation is not a matter of essential importance. It merely facilitates the extension and the definition of a process of relative valuation which was always in operation before. In other words the valuation of an article whether expressed definitely in terms of money or not, must even in the simplest possible case involve an implicit estimation of all the other articles which constitute the range of the individual's habitual expenditure and interest. The same statement is of course true of every other article in turn, when interest happens to be concentrated upon it and an expression of its value is desired.

This slight indication of the facts of the case goes to show the existence of a variable system of values pertaining to every individual, in which each member — each value of a particular thing — is in turn implicitly constituted by relation to all the rest, and outside of which system there can be no such thing as value at all. It will be noticed that the view here put forward is only one aspect of the general truth that every act of consciousness, however simple from certain points of view, is in reality essentially complex. Any act of valuation, then, implies a valuation more or less explicit, of all other goods within the individual's range of habitual interest. It is to be noted, however, that valuation only makes itself manifest as an effective and concrete reality when it is given expression in actual conduct in the market, and in order that it may thus receive expression, the individual must reduce the valuation which he places, say, upon an article he desires to purchase, to some definite terms. In accordance with

the principle of substitution, then, the valuation in question will be expressed in terms of what is judged to be the least important commodity, whose value at the time functions as an element in the system.[1] If therefore we suppose that any article known to the individual is valued—that for any reason it has received his specific and direct attention—its value is accordingly estimated in terms of what is at the time the least desirable note of expenditure. The conclusion must be that subjective value is implicitly relative to the whole system of the individual's valuation experience, and explicitly relative to that mode of expenditure embraced within it which happens to be least esteemed at the time.

It follows from this that goods are not valued in and of themselves, in abstraction from each other. Every valuable article is essentially, for human beings, the use which can be made of it, that is to say, the relations which can be established by the individual between it and other things, and it is only in such relations that it is valued at all. Now, if it be true that things are not valued out of such relations, that they are not, for example, valued for the sake of any definite state of feeling which each one of them, in and of itself and by virtue of its own inherent qualities, is able to produce, then it must be evident that the value of a thing to everyone is susceptible to constant change. To state the matter concretely, the buyer who enters the market in search of a definite commodity does not enter with a rigid and inflexible estimate of it, unless indeed he has definitely determined to make not the slightest change in the smallest detail of his customary manner of life. Unless, in other words, he has decided that he will not alter, to any extent whatever, the amount of his least important or least desirable mode of expenditure, the amount of this expenditure which he will forego in order to acquire the commodity is essentially a variable amount. The subjective value of the good which he desires to purchase is therefore necessarily indeterminate upon his first

[1] See *Positive Theory of Capital*, book iii. chap. v. for a fuller statement of the principle.

appearance in the market, and is open to the influence of such circumstances as he there may ascertain. It is doubtless true that in the case of all valuable commodities there is a margin of flexibility of this kind which varies in extent with the urgency of the want, whether "concrete" or "generic"[1] whose satisfaction is involved. Indeed the very fact that interest has been directed upon a certain object and that for the time being this object is desired above all others, makes the existence of such a margin in every case most probable. There is certainly such a margin in the case of goods the need of which is urgent and the purchase of which is immediately necessary. If, therefore, the buyer finds a certain price demanded by the seller—whatever may be the seller's principle of valuation—somewhat in excess of his earliest conjectural estimate, a process of adjustment will begin and the price will finally settle at a point determined by the ability of the seller to wait and the degree of the desire or physical necessity for purchase on the part of the buyer.

The results obtained may be briefly summed up. With respect to the *sellers* in the market, there is always a more or less extended period of time during which a sale need not be effected except upon terms in the adjustment of which the sellers exercise an influence. That the sellers must sell is a meaningless proposition without some definite specification as to time, and no such specification can in any case be made without allowing for some interval. Further, it is often true that this interval is longest with respect to those commodities of which the buyers are, normally, least able to delay the purchase. On the side of the *buyers* there is a margin of variability in the degree of sacrifice which will be made in order to acquire a valued commodity, greater or less according to the degree of change which the individual is able to introduce into his general habits of purchase and consumption. Any particular subjective valuation is, by its very nature, a member of the individual's whole system of such valuations, and this system is normally undergoing constant modification with respect to the relative positions and

[1] For this distinction, cf., *Positive Theory of Capital*, book iii. chap. iii.

amounts of the various valuations of goods which constitute it, in accordance with the extension and development of the individual's range of experience. And these manifold changes are made, so far as it is possible in this connection to specify, from the point of view of the greatest efficiency and continued well-being of the individual concerned. It is believed that this description characterizes the typical buying and selling attitudes more accurately than do the assumptions of the Austrian school. Instead of rigidity upon either side of the market the actual condition is always one of flexibility. It may be concluded, therefore, that the mechanical conditions necessary to an effective assertion of the seller's valuation are actually present in the market, and that price moves along a line which is normally in part a resultant of this valuation.

It is now time to consider an objection to all that has just been said which must long since have occurred to the reader. Has not the entire criticism of the theory of exchange value been proceeding upon an inadequate apprehension of the significance which the Austrian school really attaches to it? What has just been said is a criticism of the theory considered as an account of single market transactions. Did its authors ever suspect or desire that any such interpretation might be placed upon it? Suppose that the criticism is a valid one from the point of view of particular transactions at particular times, does not the Austrian theory that seller's valuation is of no importance still hold with perfect validity concerning transactions in the long run? It may be true that the sellers may limit the supply at any particular time by withholding their goods from sale, and that the buyers must accede to their demands, by force of habit or conventionality or even of physical necessity, but is it not the meaning of the theory simply that in the long run the sellers cannot exact from the buyers more than the goods they desire to purchase are subjectively worth to them? It may be true that the subjective valuations of the buyers are flexible in particular cases, but will not the interests of the sellers gradually tend to bring the supply of goods into exact correspondence with their

normal subjective value to their purchasers, so that no withholding will be necessary? We are told, indeed, that "use value exists of itself and sanctions the cost value,"[1] and must it not therefore sanction sellers' valuation in general? In short, is not the Austrian theory one of normal value—of the tendency of market values, whereas our criticism has narrowly understood it as a theory of market value, a theory of the transitory fluctuations of price?

The new conception which has thus made its appearance in the discussion is evidently that of normal value, though under a new aspect and in a new connection, and it is necessary briefly to devote some attention, by way of digression, to the general meaning and logical function of this concept in the theory of value. As the conception is used in the present connection it serves to throw emphasis upon the side of normal demand in the market adjustment and to eliminate the factor of valuation upon the side of supply. Now it is exceedingly instructive to notice that the conception functions in precisely the opposite manner in the classical theory of value. Normal value, we are there told, is determined in the long run by cost of production,[2] while the disturbances, of which normal value is in some sense the average, are due, as disturbances of the normal, to the influence of fluctuating demand. Demand is undoubtedly present as one of the members of the equilibrium from which normal value results, but cost of production has all along been the fixed center to which demand was gradually becoming adjusted. The apparent facility with which the conception of normal value may be used in the service of two antithetical doctrines does not necessarily

[1] *Natural Value*, p. 177.—The precise relation between cost value and the seller's alleged valuation of his wares according to the consumable goods for which they will exchange, is nowhere clearly indicated. So far as the present connection is concerned, however, the two facts would appear to stand on the same footing. It is of course true, indeed, that this whole interpretation of the Austrian school is a matter of inference, though it seems to be sufficiently warranted.

[2] "Cost of production . . . . is undoubtedly the principal and most important of the conditions on which normal value depends" (CAIRNES, *Leading Principles*, p. 46). The other conditions are in general those which interfere with free competition among producers. Pp. 57–72.

argue its utter invalidity in every sense, but it certainly does suggest the desirability of an examination of the usual manner of its employment and the usual understanding of its character. For the sake of convenience and in order to assist in the discussion of the implicit use of the idea in the Austrian theory, the classical use of it will also be considered.

In the first place, normal value may be thought of in two apparently distinct ways. It may be the tendency toward a certain future condition of equilibrium which the course of market values discloses, or it may be understood as the general average of the market values of a commodity which obtains in the market at any given time. As Cairnes has shown, however, these two aspects of the conception tend to substantial coincidence in the case of all commodities which are regularly and freely produced, the range of observation necessary in order to exhibit this coincidence varying in extent in the different branches of production.[1] And at all events the two aspects are logically identical for the present purpose, which is to ascertain the essential nature of the conception as such with respect to market values. In either of its empirical aspects, normal value stands logically for the fundamental and standard element present in a great number of observed phenomena, bearing to them the general relation, as it may be termed, of the universal to the particular.

We may then ignore the empirical distinction, just noticed, between normal value as an average and as the ultimate goal of a tendency in time, and consider it in its logical relations to the particular phenomena of market value. And here, again, from the logical point of view, normal value is susceptible of a twofold interpretation. It may, on the one hand, be thought of as an abstraction, as a center of variation, a regulative principle, to be reached by a process of analysis and elimination. From the particular cases of market value as they are actually observed, the element which produces variation (abnormal demand on the classical theory, abnormal seller's valuation according to the

[1] *Leading Principles*, p. 44.

Austrian school) is to be abstracted, and the sum of the residues thus obtained is to be erected into the universal conception. On the other hand, it may viewed as the outcome of a process, as the result which has been reached at any given point of time, through and by means of an antecedent process of market variations. According to the first interpretation market values are looked upon as the oscillations of a pendulum, as variants or affections of the normal or abidingly generic—in a word, as determinations of a genus by a differentia. According to the second view, they should be considered as the successive and connected steps in a process, the outcome of which, up to any time, contains by implication all the causes which have been in operation throughout.

It was the purpose of the portion of the discussion just concluded to show that in actual cases of price determination as they occur from day to day, the valuations of both buyers and sellers are the forces actively in operation. As has been seen, it may be presumed that the Austrian theory need not at first sight, in so far as its application is strictly limited to market values, dissent from this proposition upon grounds of logical consistency. The classical theory of market value is in substance identical. "Market price—I speak now exclusively of price in wholesale markets—has from the first been seen to be connected with the agencies of supply and demand; it has always been obvious that an increase of supply tends to lower price and an increase of demand to raise it; but beyond this rather crude generalization economic speculation did not for some time pass."[1] With respect to normal value, however, the same condition of agreement does not obtain. In the logical transition

[1] CAIRNES, *Leading Principles*, p. 98: "The chief circumstances in which the determination of price in retail dealing differs from its determination in wholesale markets appear to be these two; first, competition in retail markets is conducted under conditions which may be described as of greater friction than those which exist in wholesale trade. . . . The other lies in the superior advantage which his superior knowledge [of market conditions] gives the buyer over the seller in the transaction taking place between them—a superiority which has no counterpart in the relations of wholesale dealers." *Ibid.* pp. 112, 113.

from market to normal value, either one of the two theories eliminates or suppresses the active influence of one of the original determinants—the Austrian theory, the factor of supply, or better the valuation of the seller; the classical, the factor of demand. However, the logical agreement of the two theories is for the present more significant than their disagreement as to the particular determinant force. They agree in fixing upon a single one as the force which determines normal value and in regarding the variability of market price as due to the fortuitous action of the other. Thus, for example, normal value according to the classical theory is determined by the conditions under which a commodity is produced. While it is true that even normal values undergo change from time to time "we can properly understand by the permanency predicated of such values . . . . that they remain the same so long as the conditions of production remain the same."[1] On the Austrian theory an analogous hypothetical assumption would be made with respect to the conditions of demand.

Now, both the usefulness and the validity of this method of logical procedure in economics may fairly be questioned, and particularly in view of the theoretical conflict in which it has apparently issued. A very brief consideration of the reasons which have led to its adoption may serve to exhibit its inadequacy in a sufficiently definite manner. It is evident, in the first place, upon the most superficial observation of economic affairs, that market prices are in a condition of instability and fluctuation, and further, that in this fluctuation a movement is evident towards some manner of stability. The nature of this normal value is therefore naturally a matter of great interest, and the appearance of the conception as a central one in the beginnings of modern economic theory is not surprising. And from the first the attitude of the economists towards the conception is significant. Adam Smith and Ricardo describe it as *natural* value, and in the same spirit John Stuart Mill thinks of it as the *necessary* value, into correspondence with which all

[1] *Leading Principles*, p. 44.

market values must sooner or later come. These terms suggest very strongly the idea of an actual and, in a sense, constraining value, somehow existing as a center of oscillation throughout all the course of prices in the market, ascertainably present in company with another, a differentiating factor, in every particular price, and definitely calculable in any case by an arithmetical process.[1] Market values were seen to be determined by demand and supply. Normal value was thereupon identified with the conditions of production as affecting supply, and market values could then be explained only as variants due to the temporary and fortuitous conditions of demand.

Into the origin of this logical tendency towards the analysis and sunderment of the individual instance in this particular manner we cannot at present inquire. The tendency, however, was there. This being true, the point next in question is the reason for the particular selection which was made, in pitching on one or the other of the determining factors as the normal. Why should the conditions of production rather than the conditions of demand have been fixed upon by the classical economists as the circumstance with which normal value, as normal, should be identified? The answer to this question appears to lie in the general theory of value upon which the practical sagacity and insight of Adam Smith had led him to found his system. It was, for sufficient reasons, most natural for him to isolate the elements, actually present and mutually operative at any given time in the fixing of market price, and to select one of them as the essential one, rejecting the other as the occasion of the particularity of the phenomenon. Given this tendency, and the theory that value depends upon labor, and it was the inevitable result that the determinant upon the side of supply in the case of market value should be fixed upon as the abiding and ultimately decisive one. We are accordingly told that a commodity is "sold precisely for what it is worth or for what it really costs the person who brings it to market,"[2] in language singu-

[1] Observe from this point of view the phraseology of *The Wealth of Nations*, book i. chap. v., earlier half.

[2] *Wealth of Nations*, book i. chap. vii, par. 5.

larly like that which was previously used in enunciating the principle that "the real price of everything, what it really costs to the man who wants to acquire it, is the toil and trouble of acquiring it."[1]

It is perhaps the most distinguishing merit of the Austrian school that they recognize in the most definite and self-conscious way the fact that the problem of exchange value is fundamentally a problem of psychology. The fact of this recognition must be considered as a very important contribution to economics, whatever one may think as to the merits of the actual psychological discussion of value which they have thus far presented. Without further considering the latter question in this connection, it should be noticed that the psychology of valuation which they appear to make use of as the foundation of their theory is of such a character as to preclude a rational interpretation of cost as such, as a determining moment in subjective value. It is held, in the first place, that seller's valuation is not determined by costs, but by expected future consumptions. In the second place, cost of production in the industrial process is consistently construed in a quantitative way as capitalist's expense.[2] It has already been observed that the Austrian theory manifests the same tendency to break up into two elements the particular case of market price, and to fix upon one as the ever-present and controlling constituent. With a psychological view of subjective value, from which the idea of cost as such is necessarily excluded, the factor in the determination of price in which, according to the understanding of the school, the psychological element is most conspicuous, was inevitably selected as the secret of normal value. This factor as we know was the factor of demand.

We are now in a position to understand the common logical function of the conception of normal value in these two conflicting theories. Both the classical and the Austrian school bring to the consideration of market price a preconceived theory as to

[1] *Wealth of Nations*, book i. chap. v. par. 2.

[2] *Natural Value*, book v. chap. ii.

the nature of value. This preconception determines, in either case, which one of the elements observed to be actively at work in the adjustment of market price shall be abstracted as the abiding and fundamental one, and which as the particularizing one. The conception of normal value, when reached by this method, whichever result may be the one subconsciously preferred at the outset, and so in the end obtained, amounts to scarcely more in substance than a surreptitious begging of the entire question at issue. The one theory observes empirically that values tend to an approximation to cost of production; the other that the cause of market values is a function of demand. The conception of normal value is then called in, virtually to forestall in either case, the necessity of a more searching examination of the reciprocal interaction of cost and demand and their resultant at the point of temporary equilibrium. In neither theory is the conception of normal value founded upon a genuine and impartial examination of the particular case. Its erection is in reality an arbitrary procedure, beginning in an abstract sunderment of the particular into its elements, then passing on to select one of them as fundamental and generic, in accordance with a preconceived theory of value, and ending necessarily in a dogmatic repetition, under the guise of a conception of normal value, of this original assumption.

The category of universal and particular, should be applied to the relationship of normal and market value in a very different manner. In the first place, we observe particular market values as they are actually constituted at all times by the interaction of demand and supply, and these in their actual condition, without abstract separation into genus and differentia, are our individual instances. Such a separation here, as in any analogous instance, can only be made on the basis of a definite presupposition. In the second place, we observe that the demand and supply are dynamic in their character, and that the market values which they constitute are undergoing unceasing change. Now, the individual market price, as a logical individual, is a synthesis of particular and universal, and accordingly we must interpret the

logical relationship here existing, in the language of fact. In a word, the universal element in every market price is the fact of its determination by supply and demand, and consequently the fact that it is only a single step in a continuous process of movement and change. The particular element is the definite point at which the market price may happen at the time to stand. The full meaning of any market price lies therefore neither in the one aspect nor in the other, taken singly. It lies rather in the union of the two, in the fact indeed that the value stands at a certain definite point, but in this fact, interpreted in the light of the other truth that this value is the result of a previous process of market adjustments and the point of departure for the unending series which is to follow. On the classical theory, normal value can be thought of as a fixed point from which the variations of market price are to be measured, only so long, as Cairnes has told us, as the conditions of production remain unchanged.[1] Similarly, the Austrian theory should consistently say that there is a normal value, in the fixed sense, only so long as there is no variation in the conditions of demand. In either case the assumption of stability is determined by the precedent theory of value which is entertained, and the one assumption is, logically, as valid as the other. In a word, normal value or, as alone it can be intelligibly understood, an equilibrium value which remains stable for some considerable time, cannot be generically different from the other market values which have preceded it. It, like them, results from an equilibrium between the circumstances lying back of supply and demand, between the conditions of production on the one hand and the buyers' subjective valuations on the other. Value, as value, is always the same in character, and it is with value in this generic sense that the theory should, in the first instance, be concerned.

HENRY W. STUART.

UNIVERSITY OF CHICAGO.

[1] *Leading Principles*, pp. 44, 45.

NOTES.

THE unexpected success of the recent sale of $100,000,000 of bonds for gold with which to replenish the diminishing gold reserve in the Government Treasury gives rise to reflections of opposing sorts. The fact that the price obtained for a "coin" bond was much higher than that secured from the Morgan Syndicate in February 1895, evidently implies a greater general confidence in the stability of our gold standard. The peculiar circumstances under which this sale of bonds has taken place, the loan being the *dernier ressort* of the administration, after Congress failed to do anything; the sagacity in making the offer of bonds appear to be a "popular loan," but really supported by strong syndicates — all advertised the sale as has seldom been the case hitherto. Every holder of gold in the land knew of the sale. This had much to do with the large subscription. But the prospect of a large oversubscription became known a day or two before the sale, and helped to raise the prices bid.

THE phenomenal success of the sale had, moreover, some reflex influences. The imagination of the country was touched; the national pride satisfied; and the total amount of bonds subscribed for was — although fallaceously — regarded as evidence of a corresponding amount of gold held by the subscribers. This event produced a general belief in the intention and ability of the public to support the maintenance of the existing standard. And since general trade conditions had been unfavorable because of doubt as to the stability of the standard since 1893 and even before, this effect of the bond sale aided to bring about a belief in better times. This, also, acted to improve the prices of government bonds; for the chance that "coin" would mean gold in the future was made more certain. So that the strategy of the silver party in passing through the Senate a free coinage measure, to embarrass the maintenance of the gold standard, was regarded as distinctly checked by this overwhelming subscription by the country. This opinion was strikingly confirmed by the rejection of the free silver measure in the House by a vote of 215 to 90.

On the other hand, the Treasury ran great risks by adopting the idea of a "popular loan." It made possible the withdrawal of gold from the Treasury with which to buy the bonds. And that this is no small matter is proved by the premium on gold and United States notes even after the award of bonds to the bidders. These notes would not have been at a premium, unless they were bought up in order to be presented for gold. For this reason, the real success of the loan — as a means of replenishing the reserve — cannot be determined as yet. The large subscription, therefore, is not all that it may seem at first blush; for it is already clear that the reserve is not to be increased by the whole proceeds of the sale. The amount by which the possible reserve is lessened is the price paid by the administration for choosing not to employ a syndicate which would have agreed not to withdraw any gold from the Treasury. The reserve, moreover, after the bond sale, stands unsupported by any compact influence.

The assumption that, because the bonds must be paid for in gold, the total subscription of over $550,000,000 showed the presence of an equal amount of gold in private hands is quite unwarranted. It is doubtful if this transaction throws any light on the vexed question as to the quantity of gold held in the country outside of the visible reserves. It is probable that the foreign immigrants in the West and Northwest, retaining European habits of hoarding, have considerable stocks of gold; but they are unlikely customers for government bonds in this country. In short, there is abundant evidence to show that many bidders for bonds expected to obtain gold through the banks, and consequently from the known sources of supply of gold. And even after the award of bonds, gold and "greenbacks" bear a premium of from ¼ to ½. This does not show that unsuccessful bidders had, in many cases, large stocks of gold.

The ultimate success of the loan is to be looked for in another quarter. If the replenishment of the reserve and the new-born confidence prove permanent, and if a belief in the maintenance of our standard again grows, we may hope to see a return to a payment of gold funds for customs to the Treasury. This will be the surest test. When shrewd bankers, acting for importers, are willing again to part with their supplies of gold, carefully accumulated since 1890, and are

willing to pay gold for duties, in the belief that it will freely come out again, then and not before then may we be certain that the fright as to the standard has been allayed. An operation which will, in a measure, assist in this consummation is the practical withdrawal from circulation for a time of all the "greenbacks" which have been presented for gold; and if receipts nearly equal expenditures, these may not come out immediately. For these reasons, it seems strange that the Treasury should regard the moderate presentation of "greenbacks" for gold with disfavor.

THE one marked feature of discouragement in the whole situation, however, appears in the deliberate and open flouting of all monetary sense by the refusal of Congress to meet the very serious emergencies into which the country had drifted. That the game of politics should have been played before the whole country so openly and with such cynical disregard of the needs of the business public is certainly discouraging. But it is the habit of voters to surprise the politicians when they find a chance to express their indignation at the polls. Still it should be remembered that the majority in favor of silver in the Senate is only six, and that the rejection of four silver senators by their states would reverse the majority after March 4, 1897. Probably the silver party will never again be as strong in the Senate as it is now; for the admission of new mining states cannot be again repeated, and time will bring better sense to many.

ÉMILE LEVASSEUR, who was sent to this country by the Institute in 1893 to report upon the condition of American labor, will divide his work into three parts: (1) The Laborer at Work, (2) The Laborer at Home, and (3) Labor Problems. The first part has been completed, and comprises chapters on the following subjects: Fifty Years' Progress of American Industry; Productivity of Machine and Hand Labor in Large and Small Industries; Legislation on Labor and Workshops; Unions and Labor Organizations; Men's Wages; Wages of Women and Children; Sweating System; Immigration; Strikes, Boycotts and Lockouts; Crises and Stoppages; Arbitration; Causes regulating Wages. This first volume will not appear before the end of the year.

THE GROWTH AND CHARACTER OF THE COMMERCE ON THE GREAT LAKES.

THE growth of lake commerce in recent years has been phenomenal and it is justly attracting a great deal of attention. Unfortunately the statistics covering it are but fragmentary and consequently its development cannot be accurately set forth. This deficiency is, however, in a large measure made good by more or less complete information of the commerce passing through certain channels which, from a statistical point of view, stand in a peculiar relation to lake transportation. The St. Mary's Falls Canal is one of these channels. All of the commerce going to and coming from Lake Superior passes through this gateway, and, thanks to the government officers in whose care this national work has been placed, we have accurate and quite complete statistics of the traffic passing through it. The other and much more important channel is that connecting Lakes Huron and Erie. It is to be regretted that we do not possess equally satisfactory statistics of the commerce passing through this gateway. As the local traffic on the Great Lakes is comparatively insignificant, the two sets of figures would convey a fairly accurate idea of the growth and character of the commerce upon the whole system and its various main divisions. For instance if it were known how much east-bound freight had passed through Detroit River in a year and it were also known how much freight had passed through the St. Mary's Falls Canal eastward bound it could easily be ascertained how much freight had originated on Lake Michigan, as the freight which originates on Lake Huron is but trifling in amount.

The importance of the channel connecting Lakes Huron and Erie is disclosed by the following table, taken from a report of Col. O. M. Poe, U. S. A., Corps of Engineers, which gives the total American tonnage passing both ways from 1880 to 1890 inclusive:

Year	Registered tonnage	Year	Registered tonnage
1880	20,235,249	1886	18,968,065
1881	17,572,240	1887	18,864,250
1882	17,872,182	1888	19,099,060
1883	17,695,174	1889	19,646,000
1884	18,045,949	1890	21,684,000
1885	16,777,828		

No figures for the years after 1890 are given because no reliable statistics have as yet been compiled. It is to be noted that there was but a very slight increase in the commerce passing through this channel

from 1880 to 1891. Since 1890 there has been a considerable increase, if the general impression which prevails be substantially correct.

The nature and volume of this traffic for the season of 1890 will appear from the following table:

Up Traffic	Tons	Down Traffic	Tons
Coal	4,960,279	Iron Ore	7,892,395
Miscellaneous	919,405	Lumber, Lath, Shingles, etc.	3,239,114
Cement	95,469	Corn	1,645,280
Stone	79,777	Wheat	794,742
Salt	25,827	Flour	733,399
		Oats	296,183
		Barley	139,733
		Mill Stuff	136,420
		Pig Iron	108,609
		Miscellaneous	486,975
		Flax Seed	75,081
		Rye	42,135
		Copper	40,165
		Ice	24,925
		Stone	15,000
Total Up	6,080,757	Total Down	15,670,156

The importance of St. Mary's Falls Canal is disclosed by the following table taken from a report of General Superintendent Wheeler, the engineer in charge of the canal:

Year	Total Freight Net Tons	Year	Total Freight Net Tons
1881	1,567,741	1889	7,516,022
1882	2,029,521	1890	9,041,213
1883	2,267,105	1891	8,888,759
1884	2,874,557	1892	11,214,333
1885	3,256,628	1893	10,796,572
1886	4,527,759	1894	13,195,860
1887	5,494,649	1895	15,062,580
1888	6,411,423		

The exceedingly rapid increase in the amount of the freight passing through the St. Mary's Falls Canal is in striking contrast with the very gradual increase of the amount of tonnage passing through the Detroit River. The increase has been very largely due to the rapid development of the iron mines of the Lake Superior region during the past ten years. The amount of iron ore shipped down from Lake Superior increased rather slowly until 1884, being but 1,136,071 net tons in that year. From 1884, however, the increase has been very rapid. For the season of 1895 it slightly exceeded 8,000,000 net tons and constituted a little more than one half of the total movement of freight through the canal.

The preponderance of east-bound over west-bound freight is also

much more striking than was noticed in the case of the Detroit River. During the season of 1895 the amount of the eastbound freight passing through the American canal was 11,617,404 tons while the westbound freight was but 2,854,244 net tons.

The volume and character of the commerce passing through both the canals (American and Canadian) during the season of 1895 will appear from the following table recently prepared by General Superintendent Wheeler:

East-Bound.		West-Bound.	
Copper, net tons	107,452	Coal, anthracite, net tons	452,437
Corn, bushels	80,859	Coal, bituminous, net tons	2,122,704
Stone, building, etc., net tons	26,426	Flour, barrels, net tons	2,150
Flour, barrels	8,896,497	Grain, bushels, net tons	35,650
Iron Ore, net tons	8,066,635	Manufactured iron, net tons	75,376
Iron, Pig, net tons	25,476	Salt, barrels	271,997
Lumber, M.	742,738	Unclassified, net tons	294,696
Silver ore, net tons	100	Coal Oil, barrels	35,320
Wheat, bushels	46,113,186		
Unclassified freight, net tons	136,199		

Attention has been directed to the growth of lake commerce, particularly the rapid increase of the traffic on Lake Superior and the perponderance of east-bound over west-bound freight. In conclusion attention is called to the great simplicity of lake commerce. The four items of iron ore, coal, grain (including flour), and lumber constitute almost the whole of the freight moved.

GEORGE TUNELL.

UNIVERSITY OF CHICAGO.

BOOK REVIEWS.

Money and Banking illustrated by American History. By HORACE WHITE. Boston and London: Ginn & Co., 1895. 8vo. pp. 488.

MR. HORACE WHITE'S *Money and Banking* is, as the full title indicates, rather historical than scientific. It is the author's thought—and no doubt he is correct—that about all that is baneful in the way of monetary and banking schemes has been tried in America, and that, therefore, a survey of our own history will yield many guiding principles for the present and future. Accordingly, he traces, in a very entertaining but scholarly way, the evolution of currency and banking from the earliest years of Virginia and Massachusetts down to 1895. The general conclusion of the whole matter is this. Our fathers started with the crudest sorts of commodity money, wampum, furs, tobacco, and the like, and only by slow and painful experience have we come to silver and finally to gold. In all this we are going parallel with the rest of the world. Gold is the only fit material for a money standard; and the discussions of these latest years are making its fitness more and more evident. Upon the basis of gold then, the most highly civilized nations must conduct their commerce. But various systems of representative money are permissible, if only they are wisely and honestly constituted. Here too our beginning was crude. The various land banks and free banking schemes of the earlier centuries and the first half of this century show us clearly what must be avoided, and, therefore, in a negative way, what must be sought.

The book will naturally meet with some adverse criticism from those whose opinions Mr. White contravenes on debatable historical topics. It is even demonstrably inaccurate on some minor points. But in general the more strictly historical portions deserve very high commendation. They have been prepared after much careful study, and are written in good readable English. It is quite out of the question to specify all the good points of the work. Particularly to be commended is the account of the various banking systems which prevailed in the different states before the Civil War: for this subject there is no other authority equally accessible and reliable. Some fifty pages of

good narrative are given to the two United States Banks, and to Jackson's contest with the second. The late date to which the discussions are brought down also contributes much to the value of the book. The explanations of the present working of bank credits and the clearing-house system are about the most intelligible anywhere to be found; and the account of the Gold Room is as interesting a chapter as will be met in the literature of economics. Then there are several events or questions which are incidentally and more briefly treated, as the legal-tender cases and the adherence of California to specie payments during the Rebellion.

Although the book is formally historical, it is still of a very lively interest as bearing upon the present monetary situation. Mr. White himself brings this out, and draws many lessons for the present from experience of the past. And, of course, when he comes thus into the politics of today, his conclusions will be more likely to be questioned. His contention that there is gold enough to do the business of the world because the business of the world is being done with gold, will have no force with those who believe that many of the industrial misfortunes of the time are due to the universal adoption of the gold standard. His other argument that we might have kept up specie payments throughout the Civil War is probably correct in its conclusion; but his chief supporting principle is certainly unsound. It is not true that "Every country pays the cost of a war at the time of the war." If no foreign debt of any kind be incurred, this is true. But in so far as a foreign debt is incurred during the war, in just so far do foreign laborers and capitalists temporarily assume part of the burden of the war; they send in supplies of various sorts, and accept in return such documents as entitle them at a later date to claim an equivalent.

The weakest chapter of all is the one in which the quantity theory of money is attacked. It is to be regretted that Mr. White inserted this chapter; for it is not at all required by his general scheme, and it is a conspicuous blemish in his work. The question as to the relation of the circulating cash to the range of general prices is, evidently, vital to a controversial discussion of the present monetary situation; but from an historical work it might with perfect propriety be omitted. There are several errors in Mr. White's discussion here, but the cardinal one is his failure to understand the theory he is attacking. The central proposition of the quantity theory is this. All else being unchanged, an inflation of the currency will raise general prices. Or

if you like, an increase of the circulating medium of exchange tends to raise general prices. All the arguments from the recent rapid increase of our circulation are inconclusive against such a proposition; for the statistics of production, consumption, and, best of all, exchange, prove that all else has not remained the same, that the demand for a medium of exchange has grown more rapidly than has the amount of the currency. The other arguments, from the vast amounts of credit currency, are equally invalid, and for three reasons. They vastly overrate the relative amount of the credit currency; for while they assume that it is about nine times as great as the cash, it in reality is about equal in amount. They assume that a continuous refinement of banking methods is permitting a greater and greater structure of credit to be built upon a given amount of cash; whereas statistical comparison shows that there has been no appreciable gain of this sort in Anglo-Saxon lands for about a quarter of a century. They make the most serious error of all in regarding bank credits as an independent medium of exchange; whereas the amount of cash in the country is one of the two important determinants of the amount or range of credit. In other words the range of bank credits, or the amount of the credit currency, is a function of two variables. It depends not only upon the condition of the commercial world as regards confidence and enterprise, but also upon the cash reserves of the banks, and these in turn, *cæteris paribus*, depend upon the total active circulation. A careful elaboration and organization of these facts and principles will result in a quantity theory which is not yet seriously affected by any adverse criticism, and which is essentially the old classical theory of Locke, Hume, Smith, Ricardo, and all the rest. It does not mean that an increase in the currency will tend to raise general prices in exactly the same degree; but it does assert most emphatically that an addition to the currency will tend to raise general prices in some degree.

WILLARD FISHER.

A History of Money and Prices, being an Inquiry into their Relations from the Thirteenth Century to the Present Time. By J. SCHOENHOF. New York: G. P. Putnam's Sons, 1896. 12mo. pp. 352.

MR. SCHOENHOF'S book is, as the sub-title indicates, an historical criticism of the quantity theory of the value of money. It includes

three parts: A Critical Review of Price Theories and Monetary Conditions, The History of Prices from the Middle Ages to the Present Time, and The True Price-Making Factors. In the first part Mr. Schoenhof argues against the quantity theory on *a priori* grounds; in the second part he seeks to prove, by a reference to historical facts, that it cannot be valid; and in the third part he gives his own views as to the determination of prices.

There are several pleasant things to be said of the work. It gives a great number of interesting and valuable facts. There are some curious but inarticulate statements in regard to the very earliest uses of credit instruments. There are descriptions of the early coinage of France, Germany, and England, and information as to the early temporary and local variations of the ratio of gold to silver. And the third part is full of valuable data touching the recent betterments in the agencies of manufacturing and transportation.

But, notwithstanding the author's confident claim, the book will, in my opinion, never pass as a refutation of the quantity theory. Indeed, it contains no historical argument, and few of any other sort, at all disturbing to those who believe that the old quantity theory is sound. Mr. Schoenhof is another who misunderstands the theory which he is attacking, and who, therefore, directs his discussion awrong. When the quantity theory is presented as an explanation of the price of commodities, it affirms that *general* prices will, *cæteris paribus*, vary with the amount of money in active circulation; and a writer who seeks to disprove the theory must meet just that proposition. But Mr. Schoenhof formally abjures the whole scheme of general prices (p. 8 *et seq.*), and constantly treats of the prices of single articles or of classes of similar articles. Of course, this fact alone is sufficient to invalidate the whole argument. It is easy enough to show, as our author so frequently does, that there were special conditions of supply or demand at the times when marked changes in the prices of grains, or meats, appear. But this is no evidence against a theory of general prices. It is extremely interesting to note in passing that Mr. Schoenhof rejects the scheme of general prices and index numbers as unreliable and misleading because "they are not analyzed so that the parts may be given their proper representation in the totals, or that an article of minor utility may be reduced to its proper position in the expense budget of the individual or the nation." But Mr. Palgrave's tables, and those of the Aldrich Report in our own country,

are not open to this objection, nor are the tables based upon the data of the French Commission Permanente des Valeurs. Yet these "weighted averages" tell much the same story as the simple average.

Again, Mr. Schoenhof seems to think that a fall of prices coincident with an absolute increase of the volume of the currency is evidence against the quantity theory. But it certainly is not; and so, for this second reason, nearly all of Part 2 falls harmless to the ground. The quantity theory teaches us to look for a fall of prices in the train of an increased currency, if at the same time the amount of trade grows more rapidly than the volume of the circulating medium.

So some of our author's facts, so far as they are not invalidated by the considerations already suggested, make against rather than for his thesis. He finds that after a marked rise of many prices, there came a reaction at about the beginning of the last century, when British commerce was expanding, and when money was becoming more abundant. But the industrial awakening which came early in the eighteenth century did increase the demand for money; and, as we cannot accurately measure either the demand or the supply in those days, we certainly cannot refute the quantity theory by showing that the rise of many prices was checked when the absolute amount of cash was increasing.

Again, it is to be regretted that more attention is not given to the recent history of money and prices, and less to the earlier centuries. The works of Professor Thorold Rogers, upon which Mr. Schoenhof mainly relies, are as trustworthy as are to be had for those early times, but even they do not give as full data as can be found for almost any of the countries in the last half century.

It is in the third part, where are found so many interesting statements about the recent industrial improvements, that one is most likely to admit the force of the writer's argument. Nobody will deny that almost every industrial process is now much easier than it was a quarter of a century ago. And is not this sufficient explanation of the fall of prices? and, therefore, sufficient refutation of the assertion that prices have fallen because of a scarcity of money?

It is surprising that any man who understands the quantity theory should seek argument against it in the records of recent industrial progress. Betterments in industrial methods, shorter and easier ways of manufacturing and transporting, will cause a fall of prices, it is true, but only provided the greater supply of commodities which they bring for-

ward is not matched by a greater supply of money. Prices have fallen of late because the amount of money has not increased so rapidly as have the amounts of goods. If the production of money had increased so that the supply had kept pace with the demand, prices would never have fallen. That is, prices fell since 1873, not because there were industrial improvements, but because the influences of these improvements did not extend to money as well as to goods. It may be that social justice is best served by limiting the increase of the currency in such times as we have just passed through — that is another question. But certainly, the fact that prices have fallen under the peculiar circumstances which have prevailed since 1871, is not even evidence against the classical quantity theory.

W. F.

A Scientific Solution of the Money Question. By ARTHUR KITSON. Boston: Arena Publishing Co., 1895. 12mo. pp. 418.

MR. KITSON'S book is much more than a discussion of money. It is a violent and confident attack upon the whole science of economics. Not only the fundamental principles of political economy but its spirit and methods as well are most emphatically denounced as unscientific and vicious. Mr. Kitson makes much of this charge that the present economics is unscientific, and he returns again and again to the attack. He repeatedly asserts that economic conduct must always be moral, and he finds it a great fault of the orthodox economics that the conduct which it describes is at times immoral, and results in social ill. But this implies a misapprehension as to the nature of science. Economics aims to tell us, in the form of general propositions, what men do about wealth, whether their conduct is moral, immoral or indifferent. It is no more logical or just to hold economists to account for the immoral conduct which they describe than it would be to blame scientific pathologists for the sad results of the morbid processes of which they treat.

It is not easy to assign just the proper proportions of praise and blame to Mr. Kitson for his specific teachings. That he is perfectly honest and very much in earnest is certain. But an untrained man of becoming modesty should hesitate to denounce as worthless those principles of social science which have been worked out by combined efforts of scores of master minds. Yet the accepted beliefs as to the factors and processes of production and as to the laws of value are lightly

declared unsatisfactory by Mr. Kitson; and he confidently goes on to give the world a sounder science.

Most characteristic of Mr. Kitson's temper, more characteristic even than what he says specifically about the currency, is his treatment of interest in chapter xvii. "Wealth," says he, "is wholly unproductive." "All wealth is the production of labor." "The act of lending entails neither loss, deprivation, nor inconvenience of any sort." Interest is, therefore, unjustifiable. It is "nothing else than a system of robbery and extortion," "the modern demand of the highwayman, your money or your life;" "its spirit is that of petty jealousy, of envy—that eldest-born of hell." All this, of course, is merely an outburst of that curious socialistic fallacy which makes labor alone productive, and would assign all the product to the laborers; and it is needless to give here another refutation. If labor alone is productive, Mr. Kitson and others of his belief should go ahead and produce independently of capital; they certainly have the labor force in them.

All this discussion of the methods and general principles of economics is merely preparation for Mr. Kitson's crowning achievement, the scientific solution of the money question. He notes, as all thinkers note, many imperfections in gold and silver money, particularly their instability of value and the great cost at which they are produced for society. Most of all, however, does he complain of the hard natural limitation on the supply; and to it he ascribes most of the present evils of the world, the poverty and the wretchedness. What we need is more money, the more the better. It is impossible to give here even a summary of his argument. His fundamental error is his assumption that the money holding class is a conscienceless, malevolent power always alert to distress the world by monopolizing the medium of exchange; and his solution is to make money in unlimited amounts. Let the issue and use of metallic money be forever brought to an end. You may, if you find it best, use gold now as a means of determining the true relative values of commodities; but henceforth there is no need of specie. Substitute therefor printed slips of paper issuable by perfectly free mutual banks to anybody who has any sort of product, and "redeemable, not in one but in all commodities." Government should abolish all monetary laws, and there should be absolutely no obstacle to the issue of any money that anybody can be induced to accept. Freedom of issue would not result in the emission of unsafe money, for commercial honor would prevent. All commodities would be m ne-

tizable," and not gold alone. There would be an unlimited amount of such money, and industry could never stagnate for lack of a medium of exchange; for every product would create its own means of circulation. Interest and all its attendant evils would cease; for every man could make his own money. These new monetary units would be invariable, and the world would, therefore, be rid of the curse of rising and falling general prices.

It is probably unnecessary to pass any formal criticism on such a scheme. It rests upon principles of production and value and upon assertions of fact which have over and over again been shown to be false. But the most astounding part of the whole book is the suggestion that the true relative value of goods could for all time be accurately reflected by a paper currency based thus upon the scale of gold prices which prevailed at some particular time. It would be impossible, as it would be impossible to show by a single instantaneous photograph the relative positions of the people in a throng of dancers or skaters during an hour. It would be as impossible thus to dispense with the "intrinsically valuable" measure of values after once building up a scale of relative values on it, as it would be to dispense with the foundations of a house after completing the superstructure.

W. F.

The Railway Revolution in Mexico. By BERNARD MOSES. San Francisco: The Berkeley Press, 1895. 12mo. pp. vi + 90.

THIS collection of vacation notes, written for the most part in the course of an extended trip over the railways of Mexico, outlines, in an admirable manner, certain changes which have been effected in that country by the recent expansion of railway enterprise. Most students of economics and history are acquainted in a general way with the nature of the economic and social influences of improved methods of transportation. These phenomena are matters of everyday observation. But just because they are of such universal observation, they are apt to be looked upon as matters of course, which may be taken for granted as sufficiently understood without detailed analysis. The conduct and internal management of particular railway enterprises as such, has accordingly appeared to be a more attractive subject for investigation than their activity as economic agencies in society. The present essay is therefore very opportune, and is of additional interest also in

another sense. It not only affords a suggestion of what may done in other portions of a neglected, but fertile field of economic investigation, but also describes a situation which is in many respects peculiar. Mexico now has 6687 miles of railway, well planned, well equipped and efficiently manned, most of which have been constructed during the last twenty years. Before this, Mexico was a stagnant society, isolated from the rest of the world, without roads, and without more advanced means of transportation than the "half-starved donkey and the not over-fed Indian." Whatever commercial and industrial activity there is in the country today, has thus been induced by the railways, so that the opportunity which is offered there for the study of their influence in its general aspects, is particularly favorable.

The book is divided into four chapters, treating of the changes which the railways have wrought in the political life of the country, in the character of the population, in the condition of agriculture, and in the cities. In all these directions the changes are already very considerable and have not yet by any means been fully worked out. Perhaps the most striking results of the building of the railways are to be observed in the development of agriculture, especially in the production of coffee. In 1873, Mexico exported 1,432,100 pounds of coffee. In 1890, the exports amounted to 27,797,056 pounds. The increase in production which this represents, has been made possible by the introduction of railways into the most fertile portions of the country. The coming of the railways has, further, coincided with an increase in the world's consumption of coffee and the serious embarrassments of the coffee planters of Brazil, who have heretofore been producing over half the world's supply. Mexico has thus been in a peculiarly favorable position and has taken some considerable advantage of it. The most serious obstacle which has hindered agricultural progress, and which has not yet been altogether overcome, is the system of large landholding which widely prevails in the country. The large estates, survivals in the western world of the baronies of mediæval Europe, are cultivated by the peons in the most primitive manner, and are looked upon by their unprogressive owners rather as feudal domains than as land which should be worked for the production of the greatest possible income. Unwilling and unable to develop these estates, their owners have shown an equal disinclination to part with them to more enterprising persons. The Mexican landholder is apparently not a faithful copy of the "economic man" of the earlier economists.

Little may be done in the way of improving the situation by the imposition of suitable land taxation, since the Mexican government is substantially an "oligarchy topped by a despot, and the members of the oligarchy, or the class to which they belong, are the great landholders." The railways themselves, however, are putting forth extraordinary efforts in this emergency to break the landed monopoly, and apparently with measurable success.

The growth in the export trade of Mexico, especially in coffee, which bids fair to be considerable in future, may be the cause of certain interesting developments in the monetary affairs of the country. As other commodities come to be substituted more and more for silver in the export trade, an inflation of the currency must result. It is not probable that either the mining or the coinage of silver will very soon be suspended, and the development of the mechanism of credit, which is proceeding hand in hand with the commercial development of the country, makes it very improbable that this increased supply of silver will be drawn off into the ordinary channels of circulation without serious economic disturbance. H. W. STUART.

The American Commercial Policy. Three Historical Essays. By UGO RABBENO. London: Macmillan & Co. 1895. 8vo. pp. xxiv + 414.

THESE essays would be more fittingly entitled "An Attack upon Capitalism" than "American Commercial Policy." The Italian professor claims to be strictly impartial, and so far as regards favoring or criticising protection more than free trade, or *vice versa*, he has apparently succeeded. But something more than this may reasonably be required of an author who makes a strong profession of faith in the historical method of study, and who, after condemning the deductive method as "absolutely insufficient" for the solution of the difficult problem of international exchange, undertakes an inductive investigation which "must point out the historical laws followed in each separate instance" (p. viii). Whatever may be thought of the possibility of reaching by historical investigation, such general laws or explanations with respect to our varied and confusing tariff legislation, it will take no well informed reader long to discover that Professor Rabbeno has given an unsatisfactory explanation and one which rigid adherence to the method proposed by him would render impossible.

The man who tries to explain United States tariff policy on purely economic grounds has a hard task, and needs to go beyond what may be termed secondary authorities. Yet here the facts and opinions to be found in the works of Bolles and Bishop are cited much oftener than those of any other author. Taussig's work, though spoken of in terms of highest praise, is not referred to so often as either of those above mentioned. Besides these three, Hamilton is the only American author referred to as often as is Professor Loria, which is quite proper if the work is intended as a search for facts in support of Loria's theories. But greater attention to American conditions and to the opinions of American statesmen and writers would seem more in place in an inductive study than the constant quoting of a "dear friend's" theory. Neither the free trade Memorial of Gallatin nor Secretary Walker's report is discussed. Webster is cited once, but Clay's name does not appear in the index of authors. The Annals of Congress, Finance Reports, Statutes and Reports of Committees find no place among the numerous authorities cited. It can hardly be that the learned professor has undertaken to explain our commercial policy without knowing these important sources. But it would be interesting to know why they are not even once cited. The omission of Clay may be explained by the fact that he was a politician rather than an economist. But an explanation of the causes of American tariffs which leaves the politicians out of consideration is no explanation. Had the author appreciated Clay's position as the leader and exponent of the great popular demand for protection, a demand which came from farmers, merchants and laborers as well as from manufacturers, he might have been less positive in attributing our early protective tariffs entirely to the machinations of capitalists.

It is unfortunate that an author who undertakes a strictly impartial inductive investigation should fail to discover, or should omit from consideration, so many facts which are in direct conflict with a thesis which is maintained throughout the work. By the general understanding of the term inductive study, the student is expected to find his thesis only at the conclusion of his investigation, certainly not at the beginning. But in this work positive conclusions are stated at the beginning and frequently reiterated. I say at the beginning, because England's method of dealing with the colonies and the colonial action which are described in the first essay, have no vital connection with the real subject. The work might properly begin with the period fol-

lowing the Revolution, which is taken up in the second essay. The first chapter of this essay treats of the period between the close of the Revolution and the adoption of the Constitution. Then we are favored with the following statement of the facts to be proved. First, from 1789 to 1815 the protective policy was being prepared but had not yet been applied, because the conditions requiring protection were wanting (p. 115). Secondly, from 1816 to 1832 the capitalists, to establish their sway, compelled the government to adopt the American sytem of protection (p. 116). Third, from 1832 to 1860, the capitalistic system being fully developed no longer needed protection and allowed its abandonment. Fourth, after 1860 fiscal needs led to the revival of protective tariffs which the "capitalistic crisis" has maintained till the present. Here it is worth while to note the author's own words:

> We do not wish to express opinions and conclusions which might seem premature, but we can confidently assert forthwith that this revival of protectionism in the United States and its counterpart in Europe, are in both cases an effect of the crisis which capitalism is undergoing; a crisis which seems to point out the necessity for a social and financial transformation whose main features are not yet clearly apparent. Perhaps the capitalist system, as actually existing, is close upon its end, and capital does its utmost to defend it; it leans upon protectionism, and tries in Europe as well as in America to revive its strength by those newly-devised huge coalitions called *Trusts* (p. 117).

Had the examination of the debates on the Act of 1789 been more careful, and had less reliance been placed upon the theory by which the author explains all our tariffs, the verdict on the first act might have been different. But a different verdict here would spoil the theory, just as a real knowledge of the popular feeling represented by Clay would destroy it. Capitalists and corrupt motives may perhaps rule in Italy, they may be able to compel the government to do their bidding in tariff policy and land policy. Such writings as the present lead us to believe that the author thinks they rule everywhere. We are ready enough to admit that such influences play far too large a part in American governmental affairs. But he knows little of American conditions who makes capitalistic influence the explanation of our whole commercial policy. Capitalism probably exercised less influence in 1820 than it does today, but what American authority would maintain today that protection could continue for a year if it were demanded by capitalists alone? Then, how from a study of American history can the following conclusion be drawn? "For protection to be established

there must exist a class of capitalists already sufficiently powerful to have made their influence felt, and to induce the country to incur an immediate evil in order to guard their own interests, and perhaps in this way those of the nation at large" (p. 169).

According to the Italian professor, protection was not alone invoked by the capitalists to put the laborers at their mercy, but the land policy of the government was purposely so shaped that the "laborers were completely excluded from the lands sold in enormous tracts to speculators only" (p. 176). If it be true that the government has at all times been in league with capitalists to oppress the laborers by keeping them off the land and compelling them to work in factories at wages fixed by the capitalists, how is it that the policy broke down, and lands were freely given to all settlers just at the time when capitalism was securing the reimposition of protective tariffs and was much stronger than ever before? Americans are inclined to think that their government has been extremely liberal both in giving away new lands and in aiding railways or other means of transportation which make settlement upon new lands not only possible but also profitable. If, as our author maintains, it was the settled policy of the government to keep laborers off the land, it would be difficult to find an instance of an effort which failed more completely.

In recent years the struggle has assumed a different phase and is due to different causes. Our author informs us that, "We have been suffering for the last twenty years from a permanent ill ease which seems to have become chronic. Its principal symptoms are a general fall in prices and profits, in conjunction with a systematic excess of production out of all proportion to the consuming capacity of the population, and a continual increase of the accumulation of capital and of the bulk of trade" (p. 230). In several other places Professor Rabbeno uses the theory of overproduction as an explanation of our recent policy. Trusts and protection are the means used by the capitalists to escape from the evils of overproduction. In summarizing, the author uses the following strong language to express the results obtained by his "impartial investigation:"

> In the meanwhile, to attain such poor ends, really important and general interests have been sacrificed; production restricted and rendered costly; workmen oppressed, and all the while—supreme mockery!—they are told that protection, the instrument of their degradation serves to keep their wages at a high level; and all consumers suffer. . . . It [protection] is only one of

the last, petty, useless bulwarks of capitalistic despotism, behind which profits are fighting their last battle; and to demolish it is the task of the laboring classes, who do but claim their rights, protesting against the egotism of capitalists, who to gain paltry advantages do them and their country grave injuries. It is only in the triumph of these new classes, and in a new social and economic departure, that the final discomfiture of protectionism can be expected (p. 258).

Remarks to like effect, though more moderate in tone, abound (pp. 113, 130, 154, 170, 171, 266, 274, 279, 280).

From the second essay it is a relief to turn to the third, which traces the growth of the theory of protection through the writings of Hamilton, List, Carey and Patten. List is given more importance than his connection with the United States warrants. Carey is justly treated with severity. But foreigners have rated him so high that a real service is done by a critical summary of his work. The analysis and estimate of the work of Hamilton and Patten is commendable.

In conclusion it may be said that as a summary of the more important facts in United States tariff history, and as an analysis of the writings of protectionists, the work is of value, particularly to those Italians who, while wishing to know the commercial history of this country, have not a ready command of English, but as an explanation of the causes of our commercial policy it is worse than useless.

WILLIAM HILL.

Report on Wages and Hours of Labor. Board of Trade, Labor Department. London: printed for Her Majesty's Stationery Office by Eyre & Spottiswoode, 1894.

Part I., Changes in Rates of Wages and Hours of Labor in the United Kingdom in 1893. 8vo. pp. lxxxi+222.

Part II., Standard Piece Rates. 8vo. pp. xviii+232.

Part III., Standard Time Rates. 8vo. pp. xii+278.

THE primary object of this tripartite report is to record and interpret all important changes in rates of wages occurring in Great Britain during the year 1893. The present report indicates also the preliminary results of the investigation of the same phenomena during 1894. If, as is hoped, the inquiry is continued year by year upon parallel lines, it will make available a mass of comparative data showing in

great detail the effect on market wages "of periods of depression and inflation of trade, and of the general progress of society." So far as the results for the years 1893–4 furnish a safe basis for induction, they indicate a remarkable stability in the average standard of remuneration.

It is somewhat anomalous that in a year of depression such as 1893, the changes show on the average a slight increase in prevailing rates of wages. The explanation is that the depressed conditions of industry lessened the regularity of employment, but did not at once operate to reduce the prevailing rates of wages paid. A further special explanation is that the great suspension of coal mining, while not producing a fall in the districts affected, resulted indirectly in raising miners' wages in other parts of the country. The preliminary statistics for 1894 indicate, as might be expected, a fall in the average scale of wages during that year. The downward tendency in 1894 was mainly confined to the mining, metal, and glass bottle-making industries. The effect of the changes of 1893 upon the different trade groups is indicated by the following table:

Trade Groups	Per cent. of the persons engaged in the industry who were affected by changes of wages in 1893	Net resulting change per head per week calculated on the total number affected by the changes
		s. d.
Mining and quarrying	43.3	+0 11¼
Metal, engineering and shipbuilding	11.5	−0 10¾
Building	5.1	+1 9
Textiles	4.1	−0 4¼

The changes in the hours of labor during both years were almost uniformly in the direction of reduction. In 1893 the net result of the changes investigated was equivalent to an average reduction of two hours per week in the working time of the 34,649 persons affected.

The second and third volumes of the report, describing in detail typical existing arrangements of piece and time rates, are intended in part as a complement of the present and of future reports of wage changes, but they have an entirely independent value as careful inductive studies of the various and often complicated methods of remuneration which prevail in the industrial world. Carlos C. Closson.

Seventh Annual Report by the Chief Labor Correspondent on Trade-Unions (1893), with Statistical Tables. London: printed for Her Majesty's Stationery Office, by Eyre and Spottiswoode, 1895. 8vo. pp. 284.

THE important place which labor organizations occupy in the industrial and social life of the wage earners of Great Britain, is exemplified in the annual reports of the Chief Labor Correspondent on Trade Unions. The completeness of detail with which the status, as regards membership, receipts, expenditure, etc., of so large a proportion of existing organizations is presented, is evidence of the stability of the unions and of their increasing disposition to take the public into their confidence. The very general co-operation of labor officials which Mr. Burnett, doubtless in consequence of his own position in the trade union movement, has been able to secure, together with the excellence of his own work of compilation, render his reports of great value as "a permanent record of the progress of industrial organization."

The present report deals with the year 1893—a year of unusual difficulty for the working classes, and especially exceptional on account of the great strike of coal miners in the midland countries. In years of depression there is ordinarily a falling off in the membership of labor organizations, and it is not surprising to find a slight decrease charged to 1893. The 534 unions which returned their membership statistics at the end of both 1892 and 1893, show a net falling off of 29,010, or about 2½ per cent. The net decrease resulted from a very considerable decline in the membership of the unions of unskilled labor which more than offset the gains of those representing the more highly skilled trades. "Fourteen unions of men engaged in transport and other branches of such labor, show a decrease of 37,000 on the year. In the mining and quarrying group of trades, eight of the unions show a loss of 8,000 members."

The income of the unions in question was nevertheless increased from £1,749,099 in 1892, to £1,897,300 in 1893, or about 8½ per cent. This increase of income in the face of a falling membership, was the result partly of the increasing proportion in the total membership of skilled laborers, whose contributions would naturally be large, partly of the practice of many unions of increasing the assessment of members as soon as the funds fall below a certain limit, and

partly also of exceptional contributions from outside sources in aid of the miners' strike.

The total expenditures of the unions increased much more considerably than their receipts, and drew heavily upon their reserves. In 1893, the expenditure of the 534 unions compared, was £2,157,160, representing an increase of £436,177, or about 25 per cent. over the expenses of 1892. But 1892 was also a year of depression and large expenditure, and the full effect of the strain on trade union resources will be best shown by comparing the expenditure of 1893 with that of 1891. "In 1891, the total expenditure per member of the unions reporting, amounted to £1 2s. 1½d., but in 1893, it had risen to £1 16s. 10d." The increased expenditure resulted almost wholly from exceptional payments in the form of dispute benefit and out-of-work benefit. As regards 1893, the abnormal outlay in dispute benefit was of course largely due to the prolonged difficulties in the coal-mining industry; while an increase in out-of-work benefit was needed in many branches of industry, and especially in the engineering and ship-building trades.

Notwithstanding the exceptional degree in which the aggressive or "militant" side of the activity of trade unions was emphasized during 1893, the report for that year shows the many sidedness of their work, and the extent to which their energies are devoted to friendly aid and mutual insurance of members, and similar objects quite apart from industrial disputes. The large place which purely provident benefits occupy in their expenditures is indicated in the following summary table representing (with certain slight exceptions), the total outlay of 687 unions, with a membership of over 1,270,789:

Heads of Expenditure.	Amount Expended. £	Number of Societies.	Number of Members.
Out-of-work Benefit	512,929	378	827,840
Dispute Benefit	733,045	331	1,083,904
Sick Benefit	238,729	228	622,908
Accident Benefit	26,074	99	414,989
Superannuation Benefit	117,339	89	458,678
Funeral Benefit	94,192	387	983,834
Other Benefits, Grants, etc.	114,162	391	842,202
Grants to other Unions	61,631	05	996,618
Working and other Expenses	347,461	679	1,269,070
Total	2,245,572		

There are five appendices to Mr. Burnett's condensed report.

The first is an elaborate table (of which that above transcribed is a partial summary), stating the number of branches, number of members, number and percentage receiving chief benefits, amount of funds, amount and analysis of annual income and expenditure of the 687 unions reporting.

Appendix II. is made up of three comparative tables showing in the case of each union, for a considerable series of years, the number of members, the contribution per member, and the amount per member devoted to the payment of some of the principal benefits. It is to be regretted that the multitude of details embodied in these tables is not in any way so summarized as to bring out the changes in membership, dues and expenditure, among the unions as a body. A study of the particular cases of the membership table, however, shows clearly enough the stability of the individual unions, and the extent to which they hold their membership. The violent fluctuations in numbers which have characterized the history of some of our own labor organizations, are not found under English conditions. The most notable case of fluctuation appears to be that of the National Agricultural Laborers' Union, the estimated membership of which declined from 40,000 (doubtless partly nominal), in 1875, to 15,000 in 1881, to 10,700 in 1885, to 5,300 in 1887, and then, after falling to 4,254 in 1889, rose to 15,000 in 1891. The recent decline in the membership of organizations of unskilled laborers has already been noted. But in general, the unions throughout the period from 1870, show a fairly steady gain in membership, with comparatively few set-backs. The dues of members of particular unions, and the sums devoted to the payment of the several benefits show, of course, frequent and considerable variations according to special circumstances.

The remainder of the appendices are devoted to a tabulation of the chief causes of death of members of certain unions; to a directory of trade union secretaries; and to a collection of extracts from the reports of the officials of certain unions. These citations are designed to present the aims and position of the trade unions from the point of view of their own immediate spokesmen. In so far as they may be regarded as typical, they indicate a sturdy, but conservative temper among English trade unionists—a sober determination to use wisely the increasing power that comes with "the solid progress of the workers to a larger share in the national life and thought."

C. C. C.

Report on "Gain-Sharing" and Certain Systems of Bonus on Production. By D. F. SCHLOSS (Board of Trade, Labor Department). London: Eyre & Spottiswoode, 1895. 8vo. pp. 132.

THE "systems" here described vary in detail but agree in substance. In each the employer's expense for a certain piece of work is calculated, and the employees are offered, in addition to their assured wages, an agreed fraction of any saving in expense which may henceforth result through increased activity or carefulness by the workmen.

The pamphlet at hand gives details of half-a-dozen such experiments in England and the United States, and claims for them the advantage over profit-sharing of giving to workmen a reward dependent only on their own efforts, not upon the efforts of others—as the employer, or upon chance circumstances—as the condition of the market. The fact that the reward for especial efficiency is additional to fixed wages and is earned jointly by groups of workmen, relieves this system of the harshness of the piece-system.

Of the six experiments described, three have failed or been discontinued—one because the men "did not work so hard" after the first few months, a second because the great variety and the smallness of the departments made the necessary calculations scarcely possible, and because the men preferred the piece-system which gave *each* workman the reward of his own efficiency; in the third no bonus has been paid since 1890, because of the depression in business, the members of the firm say, though the fact that the employers proposed to keep 90 or 95 per centum of the total dividend resulting from cheapened production, must seem to most persons worthy of note in explaining the failure of the men to increase their efforts in any marked degree. Of the other three, the bonus amounted in one case to 14.93 per centum on the sum of wages for 1894; in a second "the average increase of output due to the system has been from 25 to 35 per centum, and the proportion of premium has been such as to make the increased earnings rather less than one-half the saving to the company;" in the third establishment, where many hundreds of men are employed under the system, the bonus has averaged 5.68 per centum during five years. It appears that the chances of success are increased by uniformity in the character of the work done throughout the establishment, by making possible accurate calculations of expense, and by payment to small

groups rather than to large. A reduction, *e. g.*, in the size of a group of from 33 to 5 resulted in one case in an increase of the bonus from less than 5 per centum to more than 24. It is especially worth noticing that the system introduces a form of competition more fiercely destructive to the inefficient than even the piece-system, as efficient workmen insist on the discharge of the inefficient members of their group.

So far as six experiments extending through brief periods may be taken as justifying a conclusion, the verdict can hardly fail to be favorable to the bonus system, providing the employers are fairly generous in apportioning the dividend, and allowing that in some industries it will not apply at all, because—as in foundries, for example—an increase in the workman's speed is impossible.

A. P. WINSTON.

Eighth Biennial Report of the Bureau of Labor Statistics of Illinois, 1894. (Taxation.) Springfield, Illinois: State Printer, 1895. 8vo. pp. 491.

THIS report consists of two parts, an exposition of the bad working of the Illinois general property tax, and an argument for replacing the present system with the "Single Tax." The single tax argument exhibits the familiar characteristics of single tax writings: the initial proposition that the poverty of the masses is increasing; the metaphysical argumentation about "justice" and things "natural" and "unnatural;" the implied delusion that a tax imposed on land-rent will in some way fail to detract from the sum of wealth in the community, and the cheerful assurance that the single tax is "the solution of the labor problem." It certainly need not indicate intolerance of Mr. Henry George's views to ask why the public should be made to contribute to the single tax propaganda by paying for an abstract of "Progress and Poverty" under the name of an official report.

The descriptive part of the book is in the main good. It shows that property is undervalued in Chicago as contrasted with the rest of the state. The money in bank, for example, by the assessor's returns, was less in Cook county than in any other of twenty-three counties presented, and so of other property. This results probably from the more intense competition of the city and more strenuous efforts of men in business to figure closely, rather than from native dishonesty.

Good reason is shown for believing that in Chicago fine dwellings

are undervalued more than poor ones, land more than buildings, and vacant land more than land in use. There are, further, the familiar proofs of evasion throughout the state. This is a statement old in substance with a variation as to specific facts. Every one knows the dishonesty and injustice of our tax system, but this does not forbid a fresh demonstration of the evil. Only tedious reiteration can persuade to action an inert public conscience which has long ago been passively persuaded.

A. P. W.

The Mark in Europe and America. A Review of the Discussion on Early Land Tenure. By ENOCH A. BRYAN. Boston: Ginn & Co., 1893. 8vo. pp. vii + 164.

MR. BRYAN has rushed in where a more cautious student would fear to tread. It is impossible for a student in the brief space of "a year of rest from his regular duties" to master the immense literature upon the early German village community thoroughly enough to make even "a small contribution to the further consideration of the problem." Moreover, the author approaches his subject in a way calculated to irritate the reader. He tells us that "an historical hypothesis, though it may after a time prove untenable, possesses at any rate the merit of forming a central point for investigation and discussion. But there is a corresponding danger. If once it is fixed in the mind and accepted as standing for a reality, subsequent facts are interpreted in its light and then in turn made to reflect light upon it" (p. 1), and then he proceeds to advocate to the best of his ability the theories of the Coulanges-Seebohm-Ashley school, as if they were vivid realities.

The question of the social organization of the primitive German village community falls into two parts: (1) The relation of the people to the land; (2) The relation of the people to each other. Did the early Germans hold land in individual or in common ownership? Did the early Germans start free and become serfs, or did they gradually rise out of a condition of serfdom? The former question most occupies our attention in the work before us. Mr. Bryan has no hesitation in expressing his own opinion. He says that the evidence "establishes beyond question the existence of individual landed property from the fourth or fifth century to the present, with a strong probability, to say the least, of its existence in the *Germania* of Tacitus. . . . The evi-

dence is weak in not being able to *prove* a negative, that is, that free communal village groups did not also exist. But it is well to note the entire absence of any proof of communal ownership in Tacitus" (pp. 72–3).

This statement is based, of course, upon the well-known passages in Tacitus, of which Mr. Bryan gives his own — or rather Mr. Seebohm's —translation. No one can declare him positively wrong, for no one can pretend fully to understand Tacitus, because of variations in the text, and the further fact that it is uncertain whether he is speaking of a fairly permanent or a constantly changing occupation of the land.

But there is another sort of evidence, that derived from a study of primitive society, which has been wholly ignored. It is possible, upon such evidence, to build up a theory holding an intermediate place between the two schools, and yet in through accord with the statements of Tacitus. According to this view the primitive Germans lived in families, *i. e.*, consanguine groups, *and held land in families.* That is, there was a common ownership within a clan-group, but not of the community at large; this ownership, however, was confined to the arable land upon which the tillage was shifted (?), while the pasture land was the common property of the Mark.[1]

This view is adopted after what is believed to be a more perfect conception of the character of primitive society. Starting with the rational premise that the ethical nature of man was low in the beginning, that the relation between the sexes was probably indiscriminate in very early times, it is argued that as man's moral vision enlarged, the tribe was split into groups of closer affinity, until finally the family resulted. In other words that the state results from the segregation of the tribe and that the family is the apex and not the base of organized society, *i. e.*, the state. The steps of development might be given thus: (1) Tribal community which broke into (2) the village community, which broke into (3) the joint-family or consanguine group, which broke into (4) severalty and the individualism of the modern family.[2]

When we come to apply this hypothesis to the primitive Germans,

[1] NASSE, *Land Community in the Middle Ages* (Cobden Club, 1871), has pointed out that "arable land easily became private property. Meadows, being neither cultivated nor manured, only used for pasturage — easily commonable" (pp. 11, 12).

[2] Cf. LAFARGUE, *Evolution of Property* (London, 1890), p. 49. GOMME, *Village Communities*, pp. 39, 43.

it meets with encouraging reënforcement. Even the advocates of the "biological theory" admit that clear evidence of a patriarchal stage among the Germans is wanting. Waitz—a knowledge of whose writings Mr. Bryan seems to be innocent of, as also of the works of Eichhorn, Bethmann-Hollweg, Arnold, Heusler, von Below, Sohm, Inama-Sternegg and Lamprecht—explains this absence by the supposition that local influences gained the mastery in the very earliest stages.[1] Moreover, it is historically possible from the words of Cæsar and Tacitus to account for the absence of any patriarchal stage. Cæsar (*De Bello Gallico*, book vi. chap. xxii.), uses the words *gentes* and *cognationes*, while Tacitus (*Germania*, chap. vii.), one hundred and fifty years later, employs the terms *familiae et propinquitates*. Are these words merely to express a general idea? Hardly; Tacitus was too much a master of style, and had too keen a discrimination in the use of synomyms to use words loosely. Taking the time-element, and other statements of Tacitus into consideration, the Germans must have advanced a degree. Therefore, upon the hypothesis above given, the words of Tacitus indicate that the Germans had passed out of the tribal wandering stage which Cæsar depicts, and were united upon the basis of village communities. The expressions seem to indicate the remains of a prior gentile organization which at this time was giving place to the Mark or local district, as the basis of a still imperfect political system.[2]

This is strengthened by a comparison with the other parts of Tacitus. In chapter xvi. he says: *suam quisque domum spatio circumdat*, which would seem to imply fixity. Again, that a migration of the tribe should take place annually is almost incredible, especially since it is certain that the Germans had made a considerable advance since the time of Cæsar. Moreover, with the rude means of agriculture at their command, the Germans would be likely to take advantage of the portion of the soil subdued, for with ground sparsely settled and imperfectly cultivated,[3] exhaustion of the soil could not have taken place rapidly.

In substantiation of this intermediate view it is well to remember the tenacity of the clan relation. As late as the time of Athelstan (924) it was the duty of the *kindred* to see that each of their lordless men should find a lord; and even to the last the Anglo-Saxon viewed a feud as being a concern of the whole sept or kindred. Evidence of

[1] *Deutsche Verfassungsgeschichte*, vol. i. p. 51.

[2] Cf. MORGAN, *Ancient Society* (New York, 1877), p. 360.

[3] THORPE, *Ancient Laws and Institutes of England*, vol. i. p. 20, Lex. 2.

this solidarity is apparent in the *Leges Henrici Primi*.[1] The change from tribal communism to the private family relation could hardly have taken place without the transitional condition of a joint-family relation. This is a necessary step in the process of development. A law of the Merovingians of 574 first made children instead of clansmen heirs to one who died.

An inquiry into the origin of property sheds light upon the question. The early German did not busy his brain with abstract conceptions. What was not part of his person was for use of the group to which he was related. "At first the clan was the common family of all its members. Afterwards there came to exist private families having interests distinct from those of the clan, considered as an aggregate of a number of families. The communal territory of the tribe was then parcelled out so as to form the collective property of each family."[2]

There is much evidence to make us believe that the Germans of the fourth and fifth centuries were in the intermediate stage between communism and holding in severalty. This conception squares, too, with the words of Tacitus[3] — or at least there is nothing against interpreting him to mean the "joint-undivided family" and the "village community."

In the face of the evidence above indicated, and which is not dwelt upon in the French and English works which alone he seems to have consulted, Mr. Bryan advances an opinion which, if considered as his own, derived from his own research, must be pronounced superficial. He believes "beyond question" in "the existence of individual landed property from the fourth or fifth century to the present, with a strong probability, to say the least, of its existence in the Germany of Tacitus" (p. 72).

Two thoughts are forced upon the mind as the result of reading this book: One is that the author is not nearly competent as yet, even to present the views of others, let alone to venture upon an independent judgment. The other is that he has wandered far from the right path of the historian, who should be of a judicial mind, and has allowed his prejudices to predetermine his opinions.

JAMES WESTFALL THOMPSON.

[1] PALGRAVE, *English Commonwealth*, vol. ii. p. 112.

[2] LAFARGUE, p. 18.

[3] Nullis Germanis populis urbes habitari, satis notum est ne pati quidem inter se junctas sedes. Colunt discreti et diversi, ut fons, ut campus, ut nemus placuit. (chap. xvi.)

Cf. BETHMANN-HOLLWEG, vol. iv. p. 78.

APPENDIX.

MONETARY TREATY BETWEEN THE GERMAN STATES OF JANUARY 24, 1857.

WHEREAS, The Empire of Austria and the principality of Liechtenstein, on the one hand, and the states of the German Customs Union, bound together by the general monetary treaty of July 30, 1838, on the other hand, have come to an understanding for the purpose of entering into special negotiations, as pre-arranged in Article 19 of the Commerce and Customs Treaty of February 19, 1853, in order to conclude a common agreement in regard to coinage, plenipotentiaries have been named for this purpose as follows:

[Here follows a list of the plenipotentiaries taking part in the convention.]

These plenipotentiaries have therefore duly discussed and concluded the following Monetary Treaty.

Article 1.—The pound, of a weight of 500 grams, such as is already in use in the collection of the customs taxes, shall serve as the basis of the coinage system in the contracting states, and shall be introduced into their mints as the exclusive standard weight; and for this purpose this pound shall be divided into thousandth parts, with further decimal subdivision.

Article 2.—While retaining intact the single silver standard, and on the basis of this new pound, the mintage of the contracting states shall be so regulated that, according as the method of reckoning which is now current, or which may be introduced, in each of the states may be by the Thaler and Groschen, or by the Gulden with division into 100 parts, or by the Gulden and Kreutzer, the basis of the monetary system of the country shall be:

either the thirty-thaler basis (in place of the fourteen-thaler basis heretofore in use) at 30 thalers to the pound of fine silver;

or the forty-five-gulden basis at 45 gulden to the pound of fine silver;

or the fifty-two and one-half-gulden basis (in place of the basis of 24½ gulden heretofore in use) at 52½ gulden to the pound of fine silver.

Article 3.—More specifically,

a) In the kingdom of Prussia, exclusive of the Hohenzollern domains, in the kingdoms of Saxony and Hanover, in the Electorate of Hesse, in the Grand Duchy of Saxony, in the Duchies of Saxe-Altenburg, Saxe-Gotha, Brunswick, Oldenburg with Birkenfeld, Anhalt-Dessau and Anhalt-Bernburg, in the Principality of Schwarzburg-Sondershausen and the Subordinate Lordship of the Principality of Schwarzburg-Rudol-

stadt, in the Principalities Waldeck and Pyrmont, Reuss of the senior line and Reuss of the junior line, Schaumburg-Lippe, and Lippe, the thirty-thaler basis;

b) In the kingdom of Austria as well as in the kingdom of Liechtenstein, the forty-five-gulden basis;

c) In the kingdoms of Bavaria and Würtemberg, in the Grand-duchies of Baden and Hesse, in the Duchy of Saxe-Meiningen, in the Principality of Saxe-Coburg, in the Hohenzollern domains in Prussia, in the Duchy of Nassau, in the Overlordship of the Principality of Schwarzburg-Rudolstadt, in the Landgraviate of Hesse-Homburg and in the free state of Frankfort;

The fifty-two and one-half-gulden basis, shall be recognized and introduced as the monetary system of the country and as basis of the legal currency.

Conformably hereto there shall be comprised:

under the Thaler standard, the coins of the thirty-thaler basis and of the fourteen-thaler basis respectively;

under the Austrian standard, the coins of the forty-five-florin basis;

under the South German standard, the coins of the fifty-two and one-half-florin basis and those of the twenty-four and one-half-florin basis, respectively.

Article 4.—The coins of the thirty-thaler and fifty-two and one-half-florin systems shall be rated as exactly equivalent to the coins of like names struck heretofore according to the fourteen-thaler and twenty-four and one-half-florin basis, in such manner that in all payments and obligations, so far as the special agreement at the close of Article 8 is not affected thereby, no distinction between the old coins of the fourteen-thaler and twenty-four and one-half-florin systems, and the new coins of the thirty-thaler and fifty-two and one-half-florin systems may be made.

Article 5.—Each of the contracting states shall limit its coinage to such coins as are conformable to the system of reckoning corresponding to the coinage system agreed upon (Articles 2 and 3); nevertheless, by exception, the right is reserved to Austria to continue coining, as trade coins, the so-called "Levantine Thalers," with the likeness of the Empress Maria Theresa, and with the date 1780, of the same metallic content and alloy as the like coins of that year.

The smallest authorized fractional coins struck under the several national coinage systems shall be:

The one-sixth thaler piece on the thirty-thaler basis;

The one-fourth florin piece on the forty-five-florin basis;

The one-fourth florin piece on the fifty-two and one-half-florin basis.

The contracting governments bind themselves to limit their coinage of fractional coin to their necessary requirements.

Article 6.—The several contracting governments bind themselves, in the coinage of the larger silver coins, and therefore with respect both to their principal coins and to the subdivisions of these—the subsidiary coins—to adhere scrupulously to their national monetary basis (Article 3) and to exercise the greatest possible care that the individual coins be uniformly struck of full fineness and weight. In particular, they reciprocally agree upon the principle that the coins shall not be reduced in fineness or weight under pretense of a so-called allowance [*Remedium*], but that on the other hand no deviation from the proper fineness or weight of these coins shall be tolerated except so far as absolute accuracy is impossible of attainment.

Article 7.—The fineness shall be expressed in thousandth parts.

In determining the fineness of the silver coins the assay shall everywhere be performed by the liquid process.

Article 8.—For the accommodation and facilitation of international trade among the contracting states, two coins, answering to the specifications of the principal coins, provided for in Article 2 and on the monetary basis there contemplated, shall be struck under the denomination of Union thalers [*Vereinsthaler*], to wit:

(1) A one-thaler piece of the Union standard with a content of $\frac{1}{30}$ of the pound of fine silver and of a value equal to one Reichsthaler on the thaler standard, or 1 ½ florins on the Austrian standard, or 1 ¾ florins on the South German standard, respectively;

(2) A two-thaler piece of the Union standard, with a content of $\frac{1}{15}$ of the pound of fine silver, and of a value equal to two Reichsthalers on the thaler standard, or three florins on the Austrian standard or 3 ½ florins on the South German standard, respectively.

To these coins of the Union shall be accorded an unqualified legal-tender currency, just as to the native coins of each country, at their established value, throughout the entire territory of the contracting states, at all state, municipal and other public treasuries, as well as in private business, and especially also in international exchange. Furthermore, no one may decline to accept these coins at their full value, even in case a promise to pay stipulates a specified coin belonging to the native coinage system. Nevertheless, it shall be permissible for any person in any of the contracting states expressly to stipulate that payment shall in any case be made in the coins of the Union, with the effect that in such case payment must be made exclusively in such coins of the Union.

Article 9.—The two-thaler pieces (or the 3 ½ florins, as the case may be) struck by the states hitherto constituting a coinage union under the terms of the General Monetary Treaty of July 30, 1838, shall, in every instance, be accorded like treatment with the coins of the monetary system of the present Union (Article 8).

The one-thaler pieces struck under the terms of the General Monetary Treaty of July 30, 1838, as well as those struck prior to the year 1839 on the fourteen-thaler basis previously obtaining, shall be accorded an unqualified legal-tender character in all the contracting states, equally with the native coins.

Article 10.—The composition of the coins of the Union shall be fixed at 900 thousandths fine silver and 100 thousandths copper. Pursuant to this provision, 13½ double or 27 single thaler pieces of the Union shall weigh one pound. Deviations above or below these limits, in accordance with the principle recognized in Article 6, may not exceed 3 thousandths as regards fineness; as regards weight, the deviation may not exceed 4 thousandths of the gross weight for each one-thaler piece of the Union, while as regards the two-thaler pieces the deviation may not amount to more than 3 thousandths of the gross weight.

The diameter of the one-thaler piece shall be fixed at 33 millimetres, and of the two-thaler piece at 41 millimetres. Both shall be coined in a circular form, with a smooth raised edge and a sunk inscription or ornamentation.

On the obverse of the coins shall be stamped the likeness of the sovereign, and in the case of the free city of Frankfort its symbolic device.

The reverse must bear in the inscription around the arms of the country a declaration of what proportional part of fine silver the coin contains, and a specific designation, as one-thaler piece of the Union and as two-thaler piece of the Union, respectively, besides the year. This latter must always give the year of actual coinage.

Article 11.—The amount of the coinage of the two-thaler denomination is left to the discretion of each individual state. Whereas of the one-thaler piece there shall be coined

1) During the period from 1857 to December 31, 1862, by each of the contracting states, at least 24 pieces to each 100 souls of its population,
2) In the succeeding years, from January 1, 1863, on, within each successive four-year period, at least 16 pieces to each 100 souls of the population.

Article 12.—The new coins of the Union will from time to time be tested by the contracting states, as respects their fineness and weight, who will thereupon inform one another of the results obtained in this regard.

In case the coinage of any one of the governments concerned shall unexpectedly be found not to correspond in fineness or weight with the standard fixed by the treaty, such state incurs the obligation either at once, or upon an award by arbitration, to call in the whole of the coins of the Union struck by it during the year in which such defective coins were minted.

Article 13.—The several contracting states bind themselves never to depress the value of their larger silver coin below the nominal value, nor to

declare such coins out of circulation except after a period of redemption of not less than four weeks' duration, and preceded by public notice of their withdrawal, of not less than three months.

Each state likewise binds itself gradually to call in the coins aforesaid, including the coins of the Union struck by it, to be melted down whenever, in consequence of long circulation and wear, the coins have undergone an appreciable diminution in the value of the metal originally contained by them. Each state will also receive at all its treasuries such worn coins as have been so far defaced as to render their devices indistinct, at their full value, in accordance with the terms of their emission.

Article 14.—It is provided that smaller coins, both of silver and copper, of a standard of value lower than that of the coinage system of the country (Articles 2 and 3), and of a normal value corresponding to the latter, may be issued for the purposes of retail trade and of change.

Such coins shall always bear in their device the specific designation "Scheidemünze," and may not, if of silver, exceed in value one-half of the smallest current fractional coin; or if of copper not to exceed 6 and 5 pfennige respectively, or 4-hundredths pieces and two-kreutzer pieces respectively. In none of the contracting states is the nominal value of the copper coins to be expressed as a fractional part of a higher monetary denomination. It must be expressed as unity, or some higher multiple, or as a fraction of the value attributed to the smallest standard coin, as pfennige, kreutzer, etc.

Silver subsidiary coins may not in future be struck in any of the contracting states, of a lower coinage standard than 34½ Reichsthalers on the thaler basis, 51¾ florins on the Austrian basis, or 60⅛ florins on the South German basis.

With regard to the coinage of the copper subsidiary coin, their nominal value may not exceed the rate of 112 Reichsthalers on the thaler basis, 168 florins on the Austrian basis, and 196 florins on the South German basis, per custom-house hundredweight of copper.

The several contracting states mutually bind themselves not to put in circulation more silver and copper subsidiary coin than is required for the needs of each country for payments in small business transactions and for change. They will also withdraw the subsidiary coins at present actually in circulation to the extent to which the amount outstanding may now exceed these requirements.

No person within the territory of the contracting states shall be obliged to accept payment in subsidiary coin to an amount exceeding the value of the smallest of the larger coins (Art. 5).

Article 5.—Each of the contracting states pledges itself:

a. Never to depress its silver and copper subsidiary coins below their nominal value, nor to declare them out of circulation except after a

period of redemption of at least four weeks' duration, preceded by public notice of not less than three months prior to their final demonetization;

b. To withdraw and melt down the coins in every case when, as a result of too long circulation and abrasion the devices have become indistinct; the withdrawal to be effected at the same value at which the coins have been put in circulation;

c. To redeem its own fractional coin of all sorts at their nominal value; such redemption to take place on demand, at treasuries to be designated, in larger coins having a legal circulation in the country.

But the amount of subsidiary silver coin presented for redemption at any one time may not be less than 20 thalers or 40 gulden, and of subsidiary copper coin not less than 5 thalers or 10 gulden.

Article 16.—The determination of the rate at which the coins of the national coinage standard already in force, as well as subsidiary coins, are to be redeemed or retained in circulation within the territory subject to the 45-florin basis, during the transition to the new coinage standard, is reserved to the discretion of the several governments interested, in accordance with the terms of Article 19 of the Commerce and Customs Treaty of February 19, 1853.

Article 17.—The provisions specified in Articles 13 and 15 with respect to the acceptance of the larger silver coins and subsidiary coins at the state treasuries at their full value, do not apply in the case of coins punched or lightened otherwise than by ordinary use in circulation, nor in the case of counterfeit coin.

Article 18.—In order to the greater facilitation of international trade between the states, and for the furtherance of commerce with outside countries, the contracting states also permit the minting of gold trade-coins of the Union under the designations "crown" and "half-crown," to wit:

1) The crown containing $\frac{1}{30}$ of the pound of fine gold;

2) The half-crown containing $\frac{1}{100}$ of the pound of fine gold.

Other gold coins will not be struck by the contracting states. Nevertheless, Austria, by exception, reserves the right to coin ducats of the same kind as heretofore, up to the end of the year 1865. The value in silver of the gold coins of the Union shall in ordinary business transactions be regulated solely by the relation of supply to demand; and for this reason these coins are not endowed with the character of a legal-tender substitute for the standard silver coinage of the country, nor may any person legally be required to accept them as such.

Article 19. The composition of the gold coins of the Union is fixed at 900 thousandths gold and 100 thousandths copper. Forty-five crowns, or ninety half crowns shall accordingly weigh one pound. The limit of tolerance must, in accordance with the terms of Article 6, not exceed two parts in

one thousand in fineness, while the tolerance in the weight of the individual pieces — crowns or half-crowns — must not exceed 2.5 parts in one thousand. In determining the fineness of the gold coins the method of assay already fixed upon by the Union shall be employed in every case.

The diameter of the gold coins of the Union shall be fixed at 24 millimetres for the crown and 20 millimetres for the half-crown. Both shall be circular in form, with a smooth, raised edge, and with a sunk inscription or ornamentation.

On the obverse of the coins shall be stamped the image of the ruler, and, in the case of the free city Frankfort, the arms of the city.

The reverse must bear a declaration of the fractional part of the pound of fine gold contained in the coin, the date, and an explicit designation as coin of the Union, as well as the name of the coin, all surrounded by a wreath (*corona*), of oak leaves open above, together with the year. The latter must give the actual year of coinage.

Gold coins of the Union which contain the normal weight of $\frac{1}{6}$ and $\frac{1}{9}$ of the pound, respectively, with the permissible variation in weight of 2½ parts in the one thousandth (mint allowance), and which have not been reduced in weight by violent or illegal injury, shall pass current in all payments as full weighted.

Article 20. The provisions of Articles 6 and 12 are similarly applicable to the gold coins of the Union. The contracting states, however, incur no obligation to withdraw at public cost, or to receive into the public treasuries at the original value of the metal, such of the gold coins of the Union as, in consequence of circulation, abrasion, etc., have suffered a diminution in the value of the metal originally contained by them.

Whatever regulations a state may formulate with respect to the circulation of these gold coins within its jurisdiction, particularly as respects their acceptance at the state treasuries, the deduction to be made on payment into the state treasuries due to lessened weight and to cost of coinage, withdrawal, recoinage, etc., as well as regulations governing the police surveillance of these gold coins, shall apply without further provision to gold coins of the like denomination issued by the other contracting states.

Gold coins of the Union which do not reach the weight required (Article 19), and which have been received by the state treasuries and by the public establishments existing under the authority of the state, such as money and credit establishment, banks, etc., may not be paid out again by the public treasuries, or the establishments aforesaid. In accepting such gold coins, a corresponding deduction may be made for deficient weight, to the state treasuries, which is to be fixed at a specified rate for every $\frac{1}{10}$ thousandth of a pound (50 milligrams), by which the coin falls short of the normal weight of $\frac{1}{6}$ and $\frac{1}{9}$ of one pound, respectively, plus a surcharge of ½ per cent. of the par value to cover the cost of recoinage.

Article 21.—The contracting states shall take care that the single silver standard which is adopted as the basis of the coinage system of the country shall in no wise be disturbed or trenched upon. With respect to this provision it is to be noted that:

a) It is fully reserved to each state to admit the gold coins of the Union (Article 18) to its treasuries as a substitute for payment in silver at a previously specified rate and to extend this acceptance to all payments and treasuries or only to particular ones. Such a specified valuation must, however, be limited to a period of six months at the longest, and must, at the expiration of the last month, in every case be renewed for a new period of acceptance. The rate at which the coins shall be received into the treasuries shall not be fixed at a higher valuation for each sort of coin than the average value of that coin which has prevailed in ordinary open-market transactions during the six months preceding. The right is also reserved to each government at any time during the period set, to alter this rate of reception or to withdraw it at will;

b) The fixation of a rate of acceptance at the treasuries shall moreover apply only to the gold coins of the Union and shall not apply to other kinds of coined gold;

c) The notification by which the rate of acceptance at the treasuries is fixed, shall be given the greatest possible publicity. This notification must be issued just before the beginning of a new period, even when no alteration of the rate of acceptance for the next following period is contemplated, and shall contain,

aa) A statement of the average commercial value, in the principal markets, during the six months immediately preceding,

bb) The rate of acceptance fixed upon,

cc) The length of time for which it is so fixed,

dd) Reservation of the right, in case of necessity, to alter or reduce this valuation, as the case may be, before the expiration of the specified time (*cc*),

ee) An explanation that this rate of acceptance holds only for payments to be made to the public treasuries;

d) In the territories of the contracting governments it is furthermore not permissible for the state treasuries, or for the public institutions existing under the authority of the state, especially money and credit institutions, banks, etc., to stipulate for an optional payment in silver or gold on obligations payable by them, in such wise as to specify beforehand a value of gold in terms of silver.

Article 22.—No one of the contracting states may issue or permit to be issued legal-tender paper money unless provision be that such paper shall in every case be exchangeable on the demand of the holder for full-weight sil-

ver coins. The exceptions to this rule, possibly existing at present, are to be abolished by January 1, 1859, at the latest.

Paper money, or other tokens of value circulating as money, which have been issued, either by the state itself or by other institutions existing under its authority, shall in future be redeemed only in silver and in the legally established standard of the country.

Article 23.—Such of the contracting states as are bound by the General Monetary Treaty of July 30, 1838, agree among themselves that, from the time when the present agreement goes into operation, they will immediately put its regulations in force in place of the regulations agreed upon in the said Monetary Treaty, and that provisions of the latter are hereby extended for the entire period covered by the former (Article 27).

Likewise, the special agreements settled upon with respect to the coinage system between the states which have heretofore made use of the 14-thaler basis on the one hand, and those states which have hitherto made use of the 24½-gulden basis on the other hand, in particular the coinage treaty and special agreement regarding subsidiary coins dated Munich, August 25, 1837, the special agreement by protocol, dated Dresden July 30, 1838, and the treaty dated Munich, March 27, 1845, shall continue to be considered as existing in full force, so far as the individual regulations therein are not altered through the operation of the present treaty, or are not altered by the states involved, by agreement among themselves.

Article 24.—The contracting states shall communicate to one another all laws and ordinances which may be passed for the regulation of the coinage system under the provisions of the present treaty, as well as the agreements entered into by them among themselves for carrying it out.

They likewise pledge themselves to communicate to one another, as well as to the public, at the expiration of each year, an official statement of the coinage of every sort which has taken place in the course of the last year, together with any withdrawals of the various sorts of coin, and in both cases also to publish the aggregate amount of all coins of every sort which have been minted since the adoption of the existing monetary system.

Article 25.—The monetary agreement annexed to the present Treaty as Supplement IV., concluded at the same time with the Customs and Commerce Union of February 19, 1853, continues in force in the future with such effect as to replace the monetary agreement among the states bounded by the German Customs and Commerce Union, dated Karlsruhe, October 21, 1845, and shall hold between the latter, and have the same duration as the present treaty.

Article 26.—The contracting governments declare themselves ready, in case other German states, or such extra-German states as belong to one of the two customs-unions, wish to join the present monetary agreement, to meet this wish by negotiation undertaken with that view.

Article 27.—This treaty shall continue in force until the end of the year 1878; after that time it will continue in force from five-year period to five-year period, provided that neither party declares its withdrawal from the treaty, and provided that it is not replaced by an agreement to a different effect.

Such a withdrawal, however, may take place only in case the government in question has signified to the other contracting governments its intention to withdraw, at least two years before the expiration of the treaty, as determined either by the original agreement or by tacit prolongation as above provided; in which case, further action shall immediately be taken by the several states of the Union by the means of an amicable understanding to consider and pass on the occasion of such withdrawal as well as to take action on the withdrawal itself.

Article 28.—The present Treaty shall be ratified as soon as possible, and shall go into effect May 1, 1857.

[The *Separat-Artikel* appended to the treaty, regulating the methods to be pursued in detail in coinage and issue of coins under the treaty, are omitted. Such of the provisions contained in them as are of importance to an understanding of the monetary question, are spoken of in the paper. "The Vienna Monetary Treaty of 1857" (pp. 187–207), to which this translation is an appendix.]